VIRTUAL BCTRIMS 2020

21ST ANNUAL MEETING

XXI Congresso Brasileiro de Esclerose Múltipla e Neuromielite Óptica

Shedding new lights on MS and NMOSD

BCTRIMS
Brazilian Committee for Treatment and Research in Multiple Sclerosis

October 14-17, 2020

Abstracts

Summary

Poster Presentation - Clinical findings

93331 - ASSESSMENT OF GAIT SPEED IN PATIENTS WITH RELAPSING-REMITTING MULTIPLE SCLEROSIS USING TIMED 25-FOOT WALK

MARIANA NAVARRO HENRIQUES MIRANDA / CENTRO UNIVERSITÁRIO DE JOÃO PESSOA - UNIPÊ; FERNANDO DE PAIVA MELO NETO / CENTRO UNIVERSITÁRIO DE JOÃO PESSOA - UNIPÊ; BIANCA ETELVINA SANTOS DE OLIVEIRA / FUNAD; TANIA MARIA GUIMARÃES DE LIMA ALBUQUERQUE / FUNAD; CAMILA TAVARES MAURÍCIO DE OLIVEIRA / FUNAD; MARIANA NAVARRO HENRIQUES MIRANDA / CENTRO UNIVERSITÁRIO DE JOÃO PESSOA - UNIPÊ; JULIANA NAVARRO RIBEIRO HENRIQUES / CENTRO UNIVERSITÁRIO DE JOÃO PESSOA - UNIPÊ; ADRIANA DA CONCEIÇÃO SILVA / FUNAD; DAVI VELOSO GUERRA / FUNAD;

Background: Multiple sclerosis (MS) is a neurodegenerative and autoimmune demyelinating disease of central nervous system (CNS), which presents a wide variety of symptoms and signs. Relapsing-remitting (RRMS) is the most prevalent clinical form, characterized by episodes of relapse followed by remission periods. Changes in gait speed have a major impact on patient‘ s quality of life and can be readily measured in MS by Timed 25- foot walk test (T25FW). Individual performance in this test may be worse in patients with higher EDSS scores. Objective: This research aims to investigate a correlation between patients with RRMS performance in T25FW and their respective EDSS scores. Methods: This is a cross-sectional, quantitative, descriptive and analytical study performed at Multiple Sclerosis Reference Center of Paraíba, Brazil. 84 people with RRMS that live in João Pessoa were randomily selected and examined. Patients with EDSS score over 6.0 were not included. Results and discussion: The descriptive analysis showed a predominance of females (76.2%), EDSS of 2.0 (22.2%), mean age of 40.39 (± 12.01), mean of the timed walk test result of 6, 38 (± 2.12). The Spearman test resulted in a positive correlation with statistical significance (r = 0.592; p = 0.000 < 0,05; r = 0,374; p=0,000 < 0,05 e r=221; p=0,044 < 0,05, respectively). Conclusion: There is a correlation between the increase in EDSS with worse performance in T25FW.

BIANCA ETELVINA SANTOS DE OLIVEIRA - oliveira_bes@hotmail.com

Poster Presentation - Clinical findings

93494 - USE OF NATALIZUMAB IN A PEDIATRIC MULTIPLE SCLEROSIS PATIENT

SIMEÃO FERNANDES CARDOSO CANANÉA NETO / CENTRO UNIVERSITÁRIO DE JOÃO PESSOA - UNIPÊ; SIMEÃO FERNANDES CARDOSO CANANÉA NETO / CENTRO UNIVERSITÁRIO DE JOÃO PESSOA - UNIPÊ; DAVI VELOSO GUERRA / FUNAD; Leandro Cabral Moreira Guimarães / CENTRO UNIVERSITÁRIO DE JOÃO PESSOA - UNIPÊ; LINDINALVA FERREIRA SOUZA DOS SANTOS / FUNAD; BEATRIZ NASCIMENTO LUNA / FUNAD; ADRIANA CONCEIÇÃO SILVA / FUNAD; FERNANDO DE PAIVA MELO NETO / CENTRO UNIVERSITÁRIO DE JOÃO PESSOA - UNIPÊ; ÂNIA MARIA GUIMARÃES DE LIMA ALBUQUERQUE / FUNAD;

The present case report aims to describe what happened to RMGS, 19 years-old, who in May 2005, attended the consultation referring to nystagmus, ataxia and dizziness. He was diagnosed with vasculitis and treated with pulsetherapy of methylprednisolone, recovering completely. In 2014, diplopia and dizziness began, and the same treatment have been performed with partial improvement. About a month later, he presented dysesthesia, diplopia and impairment of the right visual field, with ESSD = 2,5. About a year later (2015), here turned with hypoesthesia and paresthesia in the upper limbs. Neurological examination revealed Lhermitte, nystagmus, hypoesthesia in all limbs for vibratory sensitivity, as well as hyperreflexia in all limbs. He again under went pulsetherapy with methylprednisolone and, that time, he was diagnosed with Relapsing-Remitting Multiple Sclerosis (MS), with positive serology for the JC virus (JCV). Natalizumab was started in July 2015, every 28 days. In October of the same year, he presented himself without new complaints and without adverse effects associated with the use of the medication, with hyperreflexia in the four limbs and EDSS = 1.0. Currently, he performs Magnetic Resonance Imaging (MRI) every three months and Natalizumab every six weeks. Patient has precarious financial condition. march 2020, he has no neurological symptoms or new lesions on MRI, maintaining a stable neurological condition and EDSS = 1.0. This report emphasizes the positive impact of using Natalizumab in MS and how it can be used to promote a better quality of life for those who suffer from this condition.

BIANCA ETELVINA SANTOS DE OLIVEIRA - oliveira_bes@hotmail.com

Poster Presentation - Clinical findings

93491 - DIFFERENCES IN PERCEPTIONS OF NEUROLOGISTS AND PATIENTS ABOUT THE CHALLENGES AND OUTCOMES IN MULTIPLE SCLEROSIS.

Cássia Elisa Marin / Hospital São Lucas da PUCRS; Dagoberto Callegaro / Hospital das Clínicas da Universidade de São Paulo; Marco Aurélio Lana-Peixoto / Hospital das Clínicas de Minas Gerais - CIEM; Antônio Pereira Gomes Neto / Santa Casa de Belo Horizonte; Cláudia Cristina Ferreira Vasconcelos / Universidade Federal do Estado do Rio de Janeiro; José Artur Costa D' Almeida / Hospital Geral de Fortaleza; Marcus Vinícius Magno Gonçalves / Universidade da Região de Joinville; Maria Fernanda Mendes / Santa Casa de São Paulo; Mônica Koncke Fiuza Parolin / Clínica Gonçalves Dias, Curitiba; Osvaldo José Moreira do Nascimento / Universidade Federal Fluminense; Paulo Diniz da Gama / Pontifícia Universidade Católica de São Paulo; Rafael Paternò Castello Dias Carneiro / Santa Casa de São Paulo; Ronaldo Maciel Dias / Hospital de Base do Distrito Federal; Alfredo Damasceno / Universidade de Campinas; Jefferson Becker / Hospital São Lucas da PUCRS;

Introduction A good relationship between neurologists and Multiple Sclerosis (MS) patients is essential to patient□s knowledge about the disease. We perform a cross-sectional study to evaluate neurologist□s and patient□s opinions about challenges and difficulties generated by MS. Methods Participants were divided into two groups: one compound of Brazilian neurologists and other compound of Brazilian MS patients. Data were collected through online questionnaires, in a 1-year period. The survey was created by MS experts and formed of demographic data and medical aspects of the disease. Topics of quality of life, treatment challenges, disabling symptoms and orientations about the disease were proposed for both groups. Results A total of 330 patients and 182 neurologists answered the questionnaires. In the analysis of symptoms related by patients, the most voted were fatigue, ambulation issues, imbalance, falls and cognitive/memory problems, which were not related to patient□s age or disease duration. However, patients with PPMS complained more about ambulation issues, imbalance and falls ($p < 0.001$), when compared to patients with RRMS or SPMS. In analysis comparing neurologist□s and patient□s answers, divergent results were found. While almost 90% of the neurologists reported that they include the patient□s opinion in treatment choice, less than 30% of patients revealed to participate in these process ($p < 0.001$). More than 85% of neurologists reported guiding their patients about future plans, while less than 25% of patients described having been instructed on this ($p < 0.001$). While more than 90% of neurologists reported to guide their patients to smoking cessation, only almost 25% of the previously smoking patients revealed to be advised to stop the habit ($p < 0.001$). Conclusion This study revealed the need for neurologists to re-evaluate conducts and make them more frequent, with the intention of understanding patient□s priorities and increasing their interest about the disease.

CÁSSIA ELISA MARIN - cassiaemarin@gmail.com

Poster Presentation - Clinical findings

96631 - TRANSCULTURAL ADAPTATION OF THE EXPANDED DISABILITY STATUS SCALE BY PHONE TO THE BRAZILIAN PORTUGUESE LANGUAGE

Elisa Matias Vieira de Melo / Santa Casa de São Paulo; Rafael Paternò Castello Dias Carneiro / Santa Casa de São Paulo; Samyra Melo Vita / Santa Casa de São Paulo; Luiz Fellipe Aliberti / Santa Casa de São Paulo; Guilherme Sciascia Olival / Santa Casa de São Paulo; Maria Fernanda Mendes / Santa Casa de São Paulo;

Introduction: During the Covid 19 pandemic, patient□s social isolation and protection of medical team is necessary, so it is mandatory to reduce visits and create protocols that can be applied remotely. Moreover, continuous surveillance by phone/e-mail is necessary, with standardized questionnaires to perform pharmacovigilance, detect relapses or progression. □Expanded Disability Status Scale (EDSS) by phone□ was developed and validated for evaluation of patients to assess disease progression through telephone interview in the absence of a physical examination and may be a good alternative for assessing patients during the Covid 19 pandemic and other situations, avoiding loss of follow-up, and allowing the monitoring of patients with Multiple Sclerosis (MS). Objectives: Translate the □EDDS by phone□ to the Portuguese language, adapting to the Brazilian culture. Methods: Thirty outpatients with MS according McDonald criteria, aged between 18 to 69 years old were included. Patients who had relapsed in the past three months or that were unable to attend for face-to-face assessment. The English-Portuguese translation was performed by two independent professionals, trained to use the EDSS scale. After training, three neurologists with different expertise levels for the use of the EDSS scale applied the preliminary version in 15 patients. Any doubts regarding terms, vocabulary and scoring were discussed, and version 2 was obtained, applied in 15 patients, and approved for back-translation to English language. The final version was named □EDSS fone-BR□. Results: After version 1 was applied, adjustments to questions 3 and visual SF were necessary. Of the 30 patients valuated, mean difference between last EDSS face-to-face and EDSS fone-BR was 0,6. Mean EDSS face-to-face and EDSS fone-BR were 3,6 and 3,9, respectively. Conclusion: Although not replace in-person reviews, the EDSS scale by phone-BR is a useful tool for the evaluation of patients who cannot attend the consultations.

ELISA MATIAS VIEIRA DE MELO - elisamvmelo@gmail.com

Poster Presentation - Clinical findings

96647 - RECURRENT REMITTING MULTIPLE SCLEROSIS IN A 9-YEAR-OLD GIRL USING BETA INTERFERON 1A: A CASE REPORT

Esther de Alencar Araripe Falcão Feitosa / Universidade de Fortaleza/ Hospital Monte Klinikum; Adelina Maria Feitosa Gomes / Hospital Infantil Albert Sabin; Anna Kelly Krislane de Vasconcelos Pedrosa / Hospital Monte Klinikum; Camilla Gomes da Cruz / Hospital Monte Klinikum; Mariana Braatz Krueger / Hospital Infantil Albert Sabin; Milena Sales Pitombeira / Hospital Geral de Fortaleza; Vladia Veruska Sampaio / Hospital Monte Klinikum; Marcelo Costa Freire de Carvalho / Universidade de Fortaleza; Maria Isabel de Alencar Cavalcante / Universidade de Fortaleza; Lara Goiana Albuquerque / Universidade de Fortaleza; Matheus de Lucena Holanda / Universidade de Fortaleza; Leandro Dantas Rolim / Universidade de Fortaleza;

Case Presentation: This is a case of a 9 years-old girl, admitted on ER with diplopia, ataxia and headache started 48 hours before. The neurological exam showed right abducens nerve palsy, without change in the sensibility or in the level of consciousness and laboratory tests excluded infection. Skull MRI revealed areas with hyperintense signal on T2-weighted and FLAIR sequences in the subcortical white matter, periventricular, middle cerebellar peduncles and brain stem with hyperintense signal, at the left VI cranial nerve topography, some of them with contrast impregnation. Spine MRI revealed two intramedullary T2-hyperintense foci. The initial treatment with intravenous corticosteroids had an excellent response. The patient had a new outbreak six months later, with extensive motor involvement, increase in hyperintense areas on MRI and appearance of new lesions that captured contrast. A new cycle with intravenous corticosteroids associated with human intravenous immunoglobulin was done, evolved with EDSS of zero. Subcutaneous treatment regiment with 44mcg interferon beta initiated, controlled outbreaks for eight months, when there was another outbreak with spinal cord involvement. It is currently on schedule for more effective second-line therapies, such as rituximab. Discussion: Multiple Sclerosis is a chronic autoimmune disease causing demyelination of the white matter resulting in neurological disfunction. Brazil has a prevalence of 15 cases per 100.000 individuals, more commonly on women between 18 and 55 ages, less than 1% of patients present the disease before the age of 10. This case shows a girl under 10 years old, starting the symptoms with abducens nerve palsy. Treating this patient still a challenge because of her age, since most medications aren't validated for this age group. Final Comments: The longitudinal follow up promotes an important trusting relationship between parents and doctors, facilitating the therapeutic conduct on pediatric cases and promoting improvements on neurological conditions in children.

ESTHER DE ALENCAR ARARIPE FALCÃO FEITOSA - estherfalcaofeitosa@gmail.com

Poster Presentation - Clinical findings

93477 - ANALYSIS OF THE CONSEQUENCES OF THE ADMINISTRATION OF VITAMIN D IN THE THERAPEUTIC EVOLUTION OF MULTIPLE SCLEROSIS

Fernando de Paiva Melo Neto / Centro Universitário de João Pessoa - Unipê; Mateus Ribeiro Fernandes Teixeira / Centro Universitário de João Pessoa - Unipê; Marina Gomes Vanderlei / Centro Universitário de João Pessoa - Unipê; Gustavo Athaliba Bomfim Fraga / Centro Universitário de João Pessoa - Unipê; Paulo Richard Coelho Sampaio Junior / Centro Universitário de João Pessoa - Unipê; Bianca Dantas Mayer / Centro Universitário de João Pessoa - Unipê; Ana Vitória Lins de Paiva Antunes / Centro Universitário de João Pessoa - Unipê; Marinna Karla da Cunha Lima Viana / Centro Universitário de João Pessoa - Unipê; Bianca Etelvina Santos de Oliveira / Centro Universitário de João Pessoa - Unipê;

Introduction: Vitamin D is a fat-soluble steroid hormone responsible for boné metabolism, synthesized mainly through type B ultraviolet rays. In addition to its primary function, it is known that this hormone has immune and nerve receptors called Vitamin D Receptor (VDR). Multiple sclerosis (MS) is a demyelinating and degenerative disease of the central nervous system (CNS) of an autoimmune character. Therefore, without an established etiology for MS, it is appropriate to highlight the influence of this hormone on the etiopathogenesis of MS, considering that hypovitaminosis D acts as a predisposition factor for this disease. Objectives: To analyze the correlation between the vitamin D serum dosage and the progression of MS. Method: Qualitative systematic review study using articles from databases such as the Biblioteca Virtual de Saude (BVS), United States National Library of Medicine (USNLM) and ScienceDirect, in English and Portuguese, using the descriptors: Vitamin D, Multiple Sclerosis, Therapeutics. Considering a total of 1360 articles that address the topic, 18 articles were selected taking into account the year of publication, the qualifications of the magazine and the sample of the researches. Results: The experimental use of Vitamin D for the treatment of MS has been substantially discussed, focusing on its dosage. The recommendation of the dosage of serum Vitamin D levels is a current consensus in the initial assessment of patients with MS. However, the success of Vitamin D monotherapy has not been established and the dosages used are still quite controversial. Taking that in consideration, some patients with MS evolve well, while others are stagnant with the use of vitamin D. Conclusion: Therefore, considering the importance of the correlation between the Vitamin D and MS in the context of therapeutic treatment plan, it is noted that further research and clarification on this topic are crucial.

FERNANDO DE PAIVA MELO NETO - fernandonetomed@hotmail.com

Poster Presentation - Clinical findings

93479 - CORRELATION BETWEEN CIGARETTE SMOKING IN MULTIPLE SCLEROSIS AND THE INCAPACITY DEGREE

Marinna Karla da Cunha Lima Viana / Centro Universitário de João Pessoa - UNIPÊ; Fernando de Paiva Melo Neto / Centro Universitário de João Pessoa - UNIPÊ; Bianca Etelvina Santos de Oliveira / Centro Universitário de João Pessoa - UNIPÊ; Artêmio José Araruna Dias / Unifacisa - Centro Universitário; Ana Lígia Duarte Viana Gadelha / Centro Universitário de João Pessoa - UNIPÊ; João Vitor da Cunha Lima Viana / Hospital Universitário Onofre Lopes - HUOL; Davi Veloso Guerra / FUNAD; Camila Tavares Mauricio de Oliveira / FUNAD;

Inroduction: Multiple Sclerosis (MS) affects the Central Nervous System (CNS) and progresses with clinical heterogeneity, characterized by multiple foci of demyelination with subsequent axonal degeneration. In the patogeniss, the environmental, genetic and immunological factors interact triggering the chronic activation of immune cells and, thus, neuronal damage. Among the environmental risk factors we have, videlicet, cigarette as a predisposing factor and aggravating the course of the disease Objectives: Evaluate the use of cigarette in relation with the appearance e evolution of MS, considering the Expanded Disability Status Scale (EDSS). Methods: Study of review developed with a research in articles in English and Portuguese in the databases Biblioteca Virtual em Saúde (BVS), United States National Library of Medicine and SpringerLink, between 2018 and 2020. Results: Smoking increases the risk of MS by approximately 50%, in addition, it decreases the effectiveness of disease-modifying drugs, increases activity, brain atrophy and MS disabilities. Furthermore, there is a decrease in the time of onset of progressive secondary MS in patients who stop smoking after diagnosis. Moreover, in the Expanded Disability Status Scale (EDSS), smoking was associated with a greater risk of reaching 6.0, that is, aid in walking 100 meters. However, it has been shown that after smoking cessation, the risk of reaching disability milestones, namely 4.0 and 6.0, is reduced. On the MSIS-29 psychological scale, smoking was associated with a higher risk of depression and anxiety in patients with MS. Conclusion: Therefore, smoking is proven to be related to more complexity and worse prognosis in MS. Limiting modifiable risk factors is a crucial point in controlling the disease. Thereby, smoking cessation should be implemented early in patients with MS.

FERNANDO DE PAIVA MELO NETO - fernandonetomed@hotmail.com

Poster Presentation - Clinical findings

93483 - CORRELATION BETWEEN MULTIPLE SCLEROSIS AND THE EMERGENCE OF NEOPLASMS: CASE STUDY

Fernando de Paiva Melo Neto / Centro Universitário de João Pessoa - UNIPÊ; Marinna Karla da Cunha Lima Viana / Centro Universitário de João Pessoa - UNIPÊ; Artêmio José Araruna Dias / Centro Universitário de João Pessoa - UNIPÊ; Bianca Etelvina Santos de Oliveira / Centro Universitário de João Pessoa - UNIPÊ; Mateus Ribeiro Fernandes Teixeira / Centro Universitário de João Pessoa - UNIPÊ; Ana Ligia Duarte Viana Gadelha / Centro Universitário de João Pessoa - UNIPÊ; Beatriz Nascimento Luna / FUNAD; Adriana Conceição Silva / FUNAD; Lindinalva Ferreira Souza dos Santos / FUNAD; Davi Veloso Guerra / FUNAD;

Introduction: Multiple Sclerosis (MS) is a chronical, demyelinating and autoimmune disease. The early diagnosis and treatment reduce the accumulation of disabilities. Among the disease-modifying drugs, there are immunomodulators and immunosuppressants effects that have some adverse events, such as malignancies and infections. Objectives: Realize a research with MS patients from a Reference Center of MS in João Pessoa, Paraiba, Brazil, that after the diagnosis and been in a therapeutic plan, presented neoplasm. Methods: Study fulfilled with evaluation of 528 medical records from a Reference Center of Multiple Sclerosis in João Pessoa, Paraiba, Brazil, searching for the quantity of MS patients with neoplasm after their MS diagnosis, looking for results in each sex, age, neoplasm type and medications in use. Furthermore, was developed a research in articles in English and Portuguese in the databases Biblioteca Virtual em Saúde (BVS), United States National Library of Medicine (USNLM), National Center of Biotechnology Information (NCBI), BMC Neurology and SpringerLink. Results: Beyond this analysis were identified four female patients, aged between 33 to 65 years, two with breast cancer and two with thyroid cancer. Both cases of thyroid cancer presented the Relapsing Remitting MS (RRMS) and were in use of Inferon Beta 1a. The carriers of breast cancer, one with Primary Progressive MS (PPMS) and in use of Fingolimod 0,5 mg, and the other one with RRMS and in use of Inferon Beta 1a. In all the cases, after the cancer diagnosis the therapeutic plan was suspended. Conclusion: Therefore, a possible relationship between the emergence of neoplasms and the MS or with the disease-modifying drugs used on MS, thus, furher studies are deeded to prove it. In addition, it is essential that physicians who take care of patients with MS attend neoplasm appearance, in order to identify the procedure early and treat appropriately.

FERNANDO DE PAIVA MELO NETO - fernandonetomed@hotmail.com

Poster Presentation - Clinical findings

93481 - IMPACT OF CIGARETTE SMOKING AND LIFETIME ALCOHOL ON MULTIPLE SCLEROSIS

Fernando de Paiva Melo Neto / Centro Universitário de João Pessoa - UNIPÊ; Marinna Karla da Cunha Lima Viana / Centro Universitário de João Pessoa - UNIPÊ; Bianca Etelvina Santos de Oliveira / Centro Universitário de João Pessoa - UNIPÊ; Marina Pires de Sousa Braga / Centro Universitário de João Pessoa - UNIPÊ; Romulo Goia Santos Junior / Faculdade de Medicina Nova Esperança; Elce Correia Cabral da Silva / Centro Universitário de João Pessoa - UNIPÊ; Ester Acipreste Rosado / Centro Universitário de João Pessoa - UNIPÊ; Raissa Cavalcanti Rodrigues / Centro Universitário de João Pessoa - UNIPÊ;

Introduction: Multiple sclerosis (MS) is one of the most common neurological diseases in the world, affecting more women than men. It is characterized by damage to the myelin sheath of the nerves of the central nervous system and to the axon, contributing to the interruption of the conduction of the impulse. Its origin probably involves the interaction between genetic and environmental factors, but few have been identified in epidemiological studies. Objectives: To conduct a review study that allows correlating tabagism and alcohol consumption with evolution and progression of MS. Methods Bibliographical review based on the analysis of 10 articles collected in the PubMed and ScienceDirect databases, in a universe of 25 articles from 2010 to 2020, using the keywords multiple sclerosis, tabagism and alcohol consumption. Results The basis of the biological process that links MS to smoking has not yet been fully elucidated, but the association of both is clear. A study presented that a group of MS patients who smoked cigarettes had a greater risk than the group of nonsmokers in developing it, as well as another study found: a 60% higher incidence among smokers compared to people who had never smoked. There are few studies about the relationship between alcohol consumption and MS. One of them indicated that alcohol consumption exhibited an relation with the disease, while another one concluded that no significant association was found. Conclusion Thereby, it is important to develop antismoking policies and cessation programs, supporting patients before and during it, and aiming to decrease the risk of developing MS. People who subsequently present MS have elevated sensation of seeking risky activities and that behavior might increase the exposure to pathogens. In addition, future studies should explore the association between smoking and clinical relapse rates, as well as passive smoking and e-cigarettes.

FERNANDO DE PAIVA MELO NETO - fernandonetomed@hotmail.com

Poster Presentation - Clinical findings

93482 - IMPORTANCE OF LATENT TUBERCULOSIS SCREENING IN PATIENTS WITH MULTIPLE SCLEROSIS IN BRAZIL

Fernando de Paiva Melo Neto / Centro Universitário de João Pessoa - UNIPÊ; Marinna Karla da Cunha Lima Viana / Centro Universitário de João Pessoa - UNIPÊ; Bianca Etelvina Santos de Oliveira / Centro Universitário de João Pessoa - UNIPÊ; Mateus Ribeiro Fernandes Teixeira / Centro Universitário de João Pessoa - UNIPÊ; Raphael Edson Dias Reginato / Centro Universitário de João Pessoa - UNIPÊ; Jirrad Soares Drubi / Centro Universitário de João Pessoa - UNIPÊ; Pedro Souto Maior Morais / Centro Universitário de João Pessoa - UNIPÊ; Guilherme Formiga Farias / Centro Universitário de João Pessoa - UNIPÊ;

Introduction: Multiple Sclerosis (MS) is a chronic, autoimmune disease that affects the Central Nervous System (CNS) myelin sheath. Tuberculosis (TB), an infectious bacterial disease that mainly affects the lungs and can be serious, is in turn transmitted through the air and caused by the bacterium Mycobacterium tuberculosis or Koch‘ s bacillus (BK). Immunosuppression is one of the bases for the treatment of MS, with tuberculosis infection being closely linked to the individual‘ s degree of immunosuppression. The treatment of patients with MS with immunomodulators and, more recently, with immunosuppressants, have changed the natural course of the disease in recent years. New immunotherapies for the treatment of MS are associated with lower immune competence and, consequently, with a potential increased risk of infections. Objectives: To evaluate the need for prevention, diagnosis and treatment of tuberculosis in patients with multiple sclerosis. Methods: This is a literature review, carried out between January and March 2020. The PubMed bibliographic database was consulted, using the following descriptors: multiple sclerosis, tuberculosis, and four articles were selected. Results: The treatment of MS through the use of immunomodulators and immunosuppressants causes a greater susceptibility to infectious diseases. Tuberculosis is still the cause of death for 13 Brazilians a day. Prevention is important because it reduces morbidity and mortality, so it is important for the patients who will start treatment for MS to do a PPD (Purified Protein Derivative) skin test or an IGRA test (Interferon Gamma Release Assay), in addition to chest radiography, all according to need. Conclusion: Immunosuppressants are safe drugs that can dramatically improve the quality of life of patients with MS. However, it is important to consider the risk-benefit factor in each case, and TB research should be considered, in order to minimize complications from treatment, protecting the individual from possible infections.

FERNANDO DE PAIVA MELO NETO - fernandonetomed@hotmail.com

Poster Presentation - Clinical findings

96859 - DIFFERENTIATION OF MULTIPLE SCLEROSIS FROM NEUROMYELITIS OPTICA AND MOG ANTIBODY DISEASE ON BEDSIDE TESTING: THE SPECIFICITY OF INTERNUCLEAR OPHTHALMOPLEGIA

Guilherme Diogo Silva / University of São Paulo; Guilherme Diogo Silva / University of São Paulo; Bruno Batitucci Castrillo / University of São Paulo; Lucas Bueno Feo / University of São Paulo; Caio Cesar Diniz Disserol / University of São Paulo; Douglas Sato / University of São Paulo; Luana Oliveira / University of São Paulo; Carolina Rimkus / University of São Paulo; Samira Luisa Apóstolos-Pereira / University of São Paulo; Dagoberto Callegaro / University of São Paulo;

Introduction: Internuclear ophthalmoplegia (ION) is an ocular movement disorder characterized by impaired adduction of the ipsilateral eye with nystagmus of the abducting eye. Multiple sclerosis (MS) corresponds to a third of cases of ION. However, this ocular finding is not commonly reported in atypical causes of demyelination such as neuromyelitis optica spectrum disorder (NMOSD) and MOG antibody disease (MOGAD). Objectives: To evaluate the presence of internuclear ophthalmoplegia as a reliable bedside sign to differentiate multiple sclerosis from neuromyelitis optica spectrum disorder and MOG antibody disease. Methods: We retrospectively reviewed medical records from from 208 consecutively patients followed at Neuroimmunologic Clinical at São Paulo University from February, 2019 to February, 2020. MS and NMOSD´s diagnosis was done according MCDonalds 2017 and NMOSD IPND 2015 diagnosis criteria. MOGAD diagnosis was done in NMOSD patients with antibody MOG-IgG. Results: The sample include 208 MS patients (166 with relapsing-remitting, 42 with progressive forms), 51 NMOSD patients (44 AQP4 positive, 7 patients AQP4 negative) and 8 patients with MOGAD. 27 out o 208 (12,9%) MS patients presented ION during disease course while only 0,2 (1/57) NMOSD patients and no one MOGAD patients presents this finding. It represented a sensitivity of 12% and specificity of 98% in differentiating multiple sclerosis from neuromyelitis optica or MOG antibody disease. It was statistically significant (p = 0.026). Conclusion: Internuclear ophthalmoplegia is a specific bedside finding that can help neurologists to differentiate multiple sclerosis from neuromyelitis optica and MOG antibody disease.

GUILHERME DIOGO SILVA - dr.guilhermediogo@gmail.com

Poster Presentation - Clinical findings

96749 - PUPILLARY HIPPUS AS A DYSAUTONOMIC FEATURE IN ANTI-NMDA ENCEPHALITIS

LUIZ FELLIPE ALIBERTI / Hospital Evangélico de Londrina; Henrique Kazuo Lima Kubo / PUCPR; RAUL CAMPOS DE OLIVEIRA / Hospital Evangélico de Londrina; MOHAMAD ALI HUSSAIN / Hospital Evangélico de Londrina; VINICIUS ALDO CURY / Hospital Evangélico de Londrina; DANIELA ROMANHA C. GODOY / Hospital Evangélico de Londrina; MATEUS MISTIERI SIMABUKURO / Hospital Evangélico de Londrina; GUSTAVO MAFEI FRÓES / Hospital Evangélico de Londrina; LEONARDO VALENTE DE CAMARGO / Hospital Evangélico de Londrina; JULIANA PASSOS DE ALMEIDA / Hospital Evangélico de Londrina;

CASE PRESENTATION A 13-year-old female developed subacute psychotic symptoms and catatonia. She evolved with progressive altered level of consciousness and pupil size variation. Neurologic examination revealed sustained pupillary hippus (PH) and orofacial dyskinesias. She evolved with severe dysautonomia characterized by tachycardia, sudoresis and hypertension. Electroencephalogram (EEG) revealed generalized rhythmic delta activity. Cerebrospinal fluid (CSF) and blood samples were positive for N-methyl-D-aspartate receptor (NMDAR) antibodies. Symptoms improvement was not as expected with first line treatment (methylprednisolone and immunoglobulin) and patient received cyclophosphamide and rituximab as second line treatment. Satisfactory improvement was observed after second line treatment and she was discharged with Rankin modified scale (RMS) 5, improved environment interaction, but maintaining medically compensated tachycardia and hippus. After one year, the patient keeps with RMS 1 and mild hippus. DISCUSSION This case reports a patient that evolved with PH, an inconstant spontaneous bilateral synchronous rhythmic constriction and dilatation of the pupils of sufficiently large amplitude to be easily visible to the clinician. Previous case report about dysautonomia in anti-NMDA autoimmune encephalitis suggested that earlier treatment may prevent dysautonomic imbalance and cognitive sequelae (Consoli, A. et al, 2011). Another study with 577 patients diagnosed with anti-NMDA autoimmune encephalitis showed improvement in 50% of patients who received methylprednisolone and immunoglobulin. The remaining subsequently received cyclophosphamide and rituximab. 78% of those had better prognostic (Titulaer, MJ. Et al, 2013). FINAL COMMENTS PH, a dysautonomic symptom, occurred as part of the constellation of dysautonomic abnormalities in anti-NMDA encephalitis in this patient. There are few references about PH in the literature, but in this case the association of psychotic break with PH, as a dysautonomic marker, supported the diagnose of anti-NMDA autoimmune encephalitis.

HENRIQUE KAZUO LIMA KUBO - rikekazuo@gmail.com

Poster Presentation - Clinical findings

96650 - ATYPICAL PRESENTATIONS OF PROGRESSIVE MULTIFOCAL LEUKOENCEPHALOPATHY IN A PATIENT WITH AIDS AND ATAXIC SYNDROME

IURY HÉLDER SANTOS DANTAS / HOSPITAL GERAL DE FORTALEZA; IVNA LACERDA PEREIRA NÓBREGA / HOSPITAL GERAL DE FORTALEZA; NORBERTO ANÍZIO FERREIRA FROTA / HOSPITAL GERAL DE FORTALEZA; FERNANDA MAIA MARTINS / HOSPITAL GERAL DE FORTALEZA; LUCAS SILVESTRE MENDES / HOSPITAL GERAL DE FORTALEZA; DEBORAH MOREIRA RANGEL / HOSPITAL GERAL DE FORTALEZA; LARA ALBUQUERQUE DE BRITO / HOSPITAL GERAL DE FORTALEZA; DANIELLE MESQUITA TORRES / HOSPITAL GERAL DE FORTALEZA;

Case presentation: A 38-year-old, female, HIV-infected since 2015, without treatment until 2018, presented in June 2019, acute parestesias in lower limbs, imbalance and difficulty walking, besides progressive dysphagia and slurred speech that had developed over 3 months. She presented for evaluation in wheelchair. On examination, she had bilateral horizontal nystagmus, cervical dystonic tremor, global ataxia, altered deep sensation and spastic gait. Her metabolic profile were normal, including cupper and vitamins E and B12. Brain MRI showed atrophy of the cerebellar leaflets and vermis and extensive T2/fluid-attenuated inversion recovery hyperintensities involving the cerebellum and bilateral middle cerebellar peduncle. Cerebrospinal fluid analysis retrieved hyperproteinorraquia and posterior examination revealed positive JC virus DNA. Discussion: The most common involvement in progressive multifocal leukoencephalopathy (PML) appear as supratentorial subcortical white matter lesions typically with hyperintense signal on T2-weighted and FLAIR images. The authors report an atypical presentation of PML with absence of supra-tentorial lesions and extensive infra-tentorial involvement. Despite regular use of antiretroviral drugs, previous years of immunosuppression, with high viral load and low CD4 levels are related to increased susceptibility to PML. Conclusion: It is essential to establish a propaedeutic directed to the patient‘ s clinical context in the diagnosis of acquired ataxias. Investigating opportunistic infectious diseases is essential in care and treatment especially for immunosuppressed patients.

IURY HÉLDER SANTOS DANTAS - iuryhelder@hotmail.com

Poster Presentation - Clinical findings

93475 - NEURO-BEHÇET S DISEASE: ORAL ULCER ASSOCIATED WITH CNS DEMYELINATING DISEASE

Jéssica Sainça Rodrigues / Hospital das Clínicas, Ribeirão Preto Medical School, University of de São Paulo, São Paulo, Brazil; Nathalia Rossoni Ronchi / Hospital das Clínicas, Ribeirão Preto Medical School, University of de São Paulo, São Paulo, Brazil; Daniel Abreu Santos / Hospital das Clínicas, Ribeirão Preto Medical School, University of de São Paulo, São Paulo, Brazil; Katharina Messias / Hospital das Clínicas, Ribeirão Preto Medical School, University of de São Paulo, São Paulo, Brazil; Gabriel Braga Diégues Serva / Hospital das Clínicas, Ribeirão Preto Medical School, University of de São Paulo, São Paulo, Brazil; Camila de Aquino Cruz / Hospital das Clínicas, Ribeirão Preto Medical School, University of de São Paulo, São Paulo, Brazil; Vanessa Daccach Marques / Hospital das Clínicas, Ribeirão Preto Medical School, University of de São Paulo, São Paulo, Brazil;

CASE PRESENTATION: Male, 42 years old. In May 2018 insidious evolution of burning headache, paresthesia of the cervicobrachial region and lower limbs, progressing with left upper limb weakness associated with edema and papulopustular lesions in lower limbs, and diffuse hyperhidrosis. Physical examination showed an important scalp, cervical and upper thoracic allodynia, besides discrete paraparesis in left upper limb. Cerebrospinal fluid revealed mild pleocytosis (7 cells) with polymorphonuclear cells (69%) and normal protein. Serological and infectious causes, as well as autoimmune diseases were excluded (including anti-aquaporin and anti-MOG). MRI showed two truncal T2 hyperintense lesions with pachymeningeal gadolinium enhancement, and two short eccentric T2 hyperintense thoracic cord lesions with contrast enhancement (T4/T5 and T6). After five days of IV methylprednisolone, improvement of symptoms, except severe allodynia of the scalp. Azathioprine was initiated due to suspected Sjogren's Syndrome by rheumatologist, which was later discharged after normal salivary gland biopsy. Nevertheless, immunosuppressive treatment was continued considering possible immunomediated CNS disease. After 18 months appearance of single pustular oral lesion, characterized as mucosal ulceration with intense inflammatory infiltration without vasculitic changes on biopsy, compatible with ulcer seen in Behçet's disease (BD). Pathergy test was negative. DISCUSSION: BD is a chronic and multisystemic disease with unknown pathophysiology and diverse clinical manifestation. Parenchymal neurological disease includes brainstem involvement, myelopathy, cerebral demyelinating lesion and optic neuritis. Based on clinical and radiological CNS manifestation, and after appearance of oral ulcera, diagnosis of BD conforming the actual diagnostic criteria (International Criteria for Behçet's Disease (ICBD) in 2006, revised in 2013) was made. FINAL COMMENTS: Diagnosis of Neuro-BD was possible after appearance of oral ulceration. Usually oral ulceration occurs early in BD. In our case neurological manifestations dominated the clinical presentation for nearly 2 years. Conforming actual diagnostic criteria positive pathergy enters only as optional criteria.

JÉSSICA SAINÇA RODRIGUES - jessicafameca@gmail.com

Poster Presentation - Clinical findings

93473 - OPTIC NEURITIS IN AMAUROTIC EYE A CASE REPORT

Kamilla d'Aveiro Fernandez / State University of Rio de Janeiro; Felipe da Rocha Schmidt / State University of Rio de Janeiro; Fabiana Cavalcanti de Souza Lima / State University of Rio de Janeiro; Cristiana Pessoa de Queiroz Faria Goes / State University of Rio de Janeiro;

Case Presentation: A 40 year-old woman with Neuromyelitis optica spectrum disorders (NMOSD) had a history of multiple episodes of Optic Neuritis (ON), Cervical Myelitis and Encephalitis. She has amaurosis in right eye, important impairment to walk and in cerebral functions with Expanded Disability Status Scale 5,5. She is using Rituximab since September 2017 and had a new relapse in August 2019 with retroorbital and eye movement pain and in the right eye. MRI showed a T2 hypersinal in the right Optic Nerve with Gadolinium enhancement. She was treated with Metilprednisolone IV and it was associated Azatioprine to Rituximab. Her disease is stable since then, with no infectious complications. Discussion: Optic neuritis usually presents as acute painful vision loss. Patients could describe retroorbital pain that worsen with eye movement. ON have many causes but it is frequently associated with autoimmune diseases. The main symptom is the vision loss and the diagnosis is a challenge in amaurotic patients, but it still important detect a relapse in this population because it is an indicator of inflammatory activity. NMOSD is an inflammatory disease that has a relapsing course. Attacks could be Optic neuritis, myelitis, encephalitis, area postrema syndrome, acute brainstem syndrome and diencephalic clinical syndrome. It is an aggressive disorder that could cause permanent neurological impairment and also death when it is not treat well done. Final Comments: This case exemplify an important point sometimes forgot it, that it is necessary warned a patient about the others simptons of Optic Neuritis, like headache and pain a moviments eye, because it could happen even in amaurotic eye demontranting a inflammatory activity.

KAMILLA D‘ AVEIRO FERNANDEZ - kamilladaveiro@gmail.com

Poster Presentation - Clinical findings

93489 - RELATIONSHIP BETWEEN MAGNETIZATION TRANSFER RATIO IMAGING AND COGNITION IN MULTIPLE SCLEROSIS

Kenia Repiso Campanholo / Faculdade de Medicina FMUSP, Universidade de São Paulo; Milena Sales Pitombeiras / Faculdade de Medicina FMUSP, Universidade de São Paulo; Carolina Medeiros Rimkus / Faculdade de Medicina FMUSP, Universidade de São Paulo; Maria Fernanda Mendes / Faculdade de Medicina FMUSP, Universidade de São Paulo; Samira Luisa Apóstolos-Pereira / Faculdade de Medicina FMUSP, Universidade de São Paulo; Geraldo Busatto Filho / Faculdade de Medicina FMUSP, Universidade de São Paulo; Dagoberto Callegaro / Faculdade de Medicina FMUSP, Universidade de São Paulo; Carlos Alberto Buchpiguel / Faculdade de Medicina FMUSP, Universidade de São Paulo; Fábio Luís de Souza Duran / Faculdade de Medicina FMUSP, Universidade de São Paulo; Daniele de Paula Faria / Faculdade de Medicina FMUSP, Universidade de São Paulo;

Introduction: Multiple Sclerosis (MS) is an inflammatory and demyelinating disease leading to dysfunctionalities and cognitive impairments. The Magnetization Transfer Ratio (MTR) can be a promising MRI sequence to monitor changes in myelin density. Objectives: Identify regions with decreased MTR and their correlation with the cognitive profile of relapsing-remitting MS (RRMS), progressive MS (PMS) and healthy controls (HC). Methods: Sixty-six subjects (29 RRMS, 18 PMS and 19 HC) underwent 3T MRI (GE Healthcare) and to the Brief Repeatable Battery of Neuropsychological Tests and Expanded Disability Status Scale (EDSS). Using the software PMOD, the MTR values were extracted from different brain regions. ANCOVA (age as covariate) and Pearson Correlation tests were performed. Results: Comparing the MTR in the groups, significant differences were found in Nucleus Caudate (p=0.001; RRMS<HC and PMS<HC), Thalamus (p=0.024; RRMS<HC), Corpus Callosum (p<0.001; RRMS<HC and PMS<HC); Brainstem (p=0.006; RRMS<HC and PMS<HC), WM (p=0.005; RRMS<HC) and NAWM (p=0.008; RRMS<HC). MTR and cognition did not correlate in PMS. However, for RRMS, MTR correlated to Attention and Processing Speed in: Thalamus (r=0.380; p=0.042), Cerebellum (r=0.396; p=0.034), WM (r=0.440; p=0.017), NAWM (r=0.432; p=0.019) and Corpus Callosum (r=0.413; p=0.026), which also correlated to Memory (r= 0.429; p=0.020). WM also correlated to Executive Function (r=0.370; p=0.048). EDSS scores inversely correlated to MTR in Globus Pallidus (r=-0.509 p=0.005); Corpus Callosum (r=-0.379; p=0.043); WM (r=-0.409; p=0.027) and NAWM (r=-0,378, p=0.043) in the RRMS group and in Cerebellum (r=-0.641, p=0.004); WM (r=-0,522, p=0.026); NAWM (r=-0,522, p=0.018) and GMc (r=-0,626, p=0.006) in PMS group. Conclusion: MTR values in MS patients were reduced when compared to HC in regions with a greater amount of myelin. The reduction in myelin was related to cognitive deficits, mainly in attention and processing speed in RRMS and to motor disabilities in RRMS and PMS patients.

KENIA REPISO CAMPANHOLO - krcampanholo@yahoo.com.br

Poster Presentation - Clinical findings

96856 - DISSEMINATED HISTOPLASMOSIS DURING FINGOLIMOD TREATMENT: A CASE REPORT

Lucas Bueno Feo / HCFMUSP; Guilherme Diogo Silva / HCFMUSP; Caio Cesar Diniz Disserol / HCFMUSP; Bruno Batitucci Castrillo / HCFMUSP; Alexandre Coelho Marques / HCFMUSP; Samira Luisa Apóstolos-Pereira / HCFMUSP; Dagoberto Callegaro / HCFMUSP;

Case presentation: 31 year old female patient with multiple sclerosis since 2016. Previously on glatiramer acetate (march/2017 to may/2018), developed radiologic disease activity and fingolimod was started. Follow-up from may/2018 to february/2019 was unremarkable. At 02/2019 the patient began to present daily fever and weight loss. By the end of march/2019, fingolimod was suspended due to elevated liver enzymes, attributable to its use. Lymphopenia was not observed. Abdomen ultrasound revealed increased liver echogenicity, enlarged lymph nodes and multiple small nodular lesions diffusely distributed through the spleen. Lung CT scan showed diffuse lesions of miliary pattern. Tuberculosis was first considered and empyrical treatment was administered, but later ruled out and infection by H. capsulatum was confirmed by immunodiffusion test. The patient was successfully treated with oral itraconazole. MS treatment was switched to natalizumab and the patient had no reported relapses since then. Discussion: There are reports of fingolimod-associated fungal infections, like cryptococcosis. Primary cutaneous histoplasmosis is reported during fingolimod use, but disseminated histoplasmosis is not previously reported. Moreover, the patient did not have other predisposing factors to immunodeficiency which could be associated to the onset of this severe fungal infection. Final comments: Severe fungal infections are reported during disease-modifying drug use. More studies are required to elucidate possible infection patterns associated to specific drugs. Patients must remain under constant surveillance, even when there seems to be no clear signs of immunodeficiency (ie. lymphopenia), as the above report showcases.

LUCAS BUENO FEO - lbuenofeo@hotmail.com

Poster Presentation - Clinical findings

96854 - INFUSION REACTIONS DURING THE USE OF OCRELIZUMAB IN TWO PUBLIC HOSPITALS

Luis Fernando Guimarães / Hoslpital Federal dos Servidores do Estado - RJ; Barbara Camille Rocha Gomes / HFSE - Hospital Federal dos Servidores do Estado; João Marcos Campos Ferreira / UFF - Universidade Federal Fluminense; Kamila d'Aveiro Fernandez / Fernandez, Kamila d'Aveiro; Nara Texeira Barbosa / HFSE - Hospital Federal dos Servidores do Estado; Nathane Braga da Silva Rezend / UFF - Universidade Federal Fluminense; Viviane Tavares Carvalho / UFF - Universidade Federal Fluminense;

OBJECTIVE Identify patients diagnosed with multiple sclerosis treated with ocrelizumab and report any adverse reaction during or after the medical infusion. METODOLOGY Transversal study performed through the review of medical record diagnosed with multiple sclerosis treated with ocrelizumab of two hospitals of Rio de Janeiro: Hospital Federal dos Servidores do Estado and Hospital Universitário Pedro Ernesto. Analyzed 12 patients, totalizing 14 infusions, and discriminate the percentual of incidence of adverse reactions related to the infusion of this drug (table 1). ADVERSE REACTIONS INCIDENCE IN 14 INFUSIONS (%) pruritus 28,57 Rash / erythema 0 irritation / throat pain 14,28 dyspnoea 0 Pharyngeal / laryngeal edema 0 Facial flush 7,14 Hypotension 0 Pyrexia / Fever 14,28 Fatigue 14,28 Headache 28,57 Dizziness 0 Nausea 0 Tachycardia 0 Another sympthom 21,42 RESULTS From 14 patients analyzed, 4 (28.5%) had no symptoms after infusion. The most common symptoms were itching and headache. All patients who complained of itching also had a retroauricular pruritus. There were no serious symptoms described and 3 patients reported other symptoms, namely: heavy legs, drowsiness, psychomotor agitation. All symptoms were transient. CONCLUSION Our observation corroborates data from previous studies. Real life reports are important to enhance familiarity with possible adverse effects. Multi center colaborations are essential for understanding this rare, yet so important disease and its treatment.

LUIS FERNANDO GUIMARAES - luisguimaraesneuro@gmail.com

Poster Presentation - Clinical findings

96250 - ADEM VERSUS RRMS: TWO DIFFERENT PATHOLOGIES AND THEIR CLINICAL

Lunizia Mattos Mariano / Unesp; Mayra Magalhaes Silva / Unesp; Henridrick Henrique / Unesp; Fernando Coronetti Gomes da Rocha / Unesp; Omar Gurrola Arambula / Unesp;

Case Report: M.G., female, smoker, 27 years, agronomist presented one episode of urinary incontinence. After fifteen days of that, presented ataxic gait and paresthesia on foot. Two weeks after these symptoms, had sudden loss of vision in left eye associated with eye pain related to movement. Neurological examination: ataxic gait; extrinsic eye movement with slight horizontal nystagmus, painful to mobilize; increased reflex area in upper limb but worse in the limb, plantar skin reflex in extension. CSF: increase proteins and presence of pleocytosis. Head MRI: focal areas of hyperhydration in white matter, with Dawson Fingers, also affecting cerebellum and brainstem, being mostly presented by annular enhancement to paramagnetic contrast. Had two outbreaks treated with methylprednisolone. She was under dimethyl fumarate therapy but, due to large number of lesions on MRI, was proposed to start alemtuzumab, but it wasn't available. After that, had new outbreak three months later, and underwent pulse therapy. Discussion: At first, differential diagnosis of Acute Disseminated Encephalomyelitis was considered because of CSF characteristics and presence of pleocytosis. However, MRI were more consistent with the diagnosis of Relapsing Remitting Multiple Sclerosis, since it had multifocal demyelinating presentation different from ADEM, which occurs in monophasic form inflammatory injury, recurrence being rare, while patient had 3 inflammations outbreaks, corroborating the diagnosis EMRR, even though there are no biomarkers that differentiate the two pathologies. Final Remarks: Clinical intersection between these pathologies makes it necessary to carefully observe clinical evolution and specific changes in imaging of each until specific biomarkers are discovered.

LUNIZIA MATTOS MARIANO - lunizia@hotmail.com

Poster Presentation - Clinical findings

96515 - PREVALENCE OF COMORBIDITIES BEFORE DIAGNOSIS IN MS PATIENTS

Maria Cecília Aragon de Vecino / Moinhos de Vento Hospital; Marco Aurélio de Caneda / Moinho de Vento Hospital; Camila Batista de Oliveira Silva / ;

Background: Multiple sclerosis (MS) is the most common cause of neurological disability in the young adult population. Comorbidities or coexisting conditions, are common is MS and generally presented with chronic nature, and are different from the basic pathology. They contribute to the total burden of the disease, and their presence delays the diagnosis, adversely influences the disease course, including, the severity of the disability at diagnosis, the rate of disability progression, relapse rate, symptom severity, health-related quality of life, treatment and mortality. Objectives: To describe the comorbidities present previously to MS diagnostic and the demographics features of the patients. Methods: A retrospective cohort study was conducted in a reference center for MS and demyelinating disorders, located in Porto Alegre RS, Brazil. The patients were included between January 1, 2016, and December 30, 2019. The medical records were reviewed to accessing clinical and demographic data (age, gender, MS phenotypes, and comorbidities). Results: The study included 230 patients. The mean age was 43 ±12.9 years. Most MS patients were female (75%) and were diagnosed before age 50 (68%). A total of 211 (92%) patients had a relapsing-remitting MS (RRMS) and 144 of these (68%) presented with comorbidities previous to MS diagnosis. The cohort had a higher prevalence of infection by varicella-zoster virus (19%), depression (18%), migraine (18%), and hepatitis A (18%). One hundred three patients (45%) had two or more comorbidities. Conclusion: The prevalence of comorbidity is high in MS and trend to increases with age, at a time when disability and complexity of care are increasing. Varicella and migraine headaches presented with higher frequency in the MS patients before fifty years old, an aspect that should be better explored.

MARIA CECÍLIA ARAGON DE VECINO - vecinoyaragon@gmail.com

Poster Presentation - Clinical findings

93465 - RELATIONSHIP BETWEEN EDSS SCORING AND COGNITIVE PERFORMANCE IN PEOPLE WITH MULTIPLE SCLEROSIS

Mauricio Ossamu Bando / ABEM - Associação Brasileira de Esclerose Múltipla; Ana Maria Canzonieri / USP - Universidade de São Paulo; Alice Estevo Dias / ABEM - Associação Brasileira de Esclerose Múltipla; Roger Pereira Silva / ABEM - Associação Brasileira de Esclerose Múltipla; Giulianna Mendes Ferreiro / USP - Universidade de São Paulo; Ibis Ariana Peña de Moraes / USP - Universidade de São Paulo; Talita Dias da Silva / USP - Universidade de São Paulo; Marcelo Massa / USP - Universidade de São Paulo;

Introduction: Multiple sclerosis (MS) is an autoimmune disease of the central nervous system. In addition to physical symptoms, complaints of cognitive difficulties are very common. The Expanded Disability Status Scale (EDSS) is a method of quantifying disability in MS people, which is scored from 0 to 10. The higher the scoring, the greater the person s functional disability. Objective: To verify and analyze the relationship between EDSS scoring and cognitive performance in people with MS. Method: A quantitative study was performed with 41 people diagnosed with relapsing-remitting multiple sclerosis (RRMS), aged between 23 and 58 years (Mean = 42.70, SD=10.62 years), 14 men (34.1%) and 27 women (65.9%), with EDSS score from 0 to 6.5 and time of diagnostic between 1 and 26 years (Mean = 10.09, SD=6.67 years). For evaluation, an interview was conducted to collect data and a battery of neuropsychological tests was applied to each patient. The SPSS software was used for data analysis. Results: It was observed that 48.8% of the patients presented alteration of sustained attention (ST), 70.7% of alternating attention (AA), 63.4% of divided attention (DA), 75.6% of processing speed (PS), 46.3% of immediate visual memory (VM) and 41.5% of visuoconstructional / visuoperception (VCP). There were negative associations between EDSS scoring and ST ($p < 0.0001$), AA ($p = 0.037$), PS ($p = 0.002$), VM ($p = 0.011$) and VCP performance ($p = 0.002$). That is, the higher the EDSS scoring, the worse the performance of these cognitive functions. There was no significant association between EDSS scoring and DA performance ($p = 0.094$). Conclusion: It is suggested from the results of this study that the level of disability status may affect the cognitive performance of people with MS.

MAURICIO OSSAMU BANDO - mobando@uol.com.br

Poster Presentation - Clinical findings

96245 - EPILEPSY AND DEMYELINATION: WHEN CALLS FOR DIFFERENTIAL DIAGNOSIS WITH MONEM

Mayra Magalhães Silva / UNESP; Omar Gurrola Arambula / UNESP; Hendrick Henrique Fernandes Gramasco / UNESP; Lunizia Mattos Mariano / UNESP; Fernando Coronetti Gomes da Rocha / UNESP;

Case report: V.S.P. patient, male, 15 years old, presented in 2014 focal seizure with version of the head to the left without loss of consciousness lasting 30 minutes associated with visual symptoms such as prodromes and clonic movements. Neurological examination: at first with only hyporeflexia global. Investigation of epileptic seizure on Head MRI showing subcortical changes of the white matter in the cerebral hemispheres, suggesting demyelinating pathology. Started to be monitored as isolated radiological syndrome, but after further investigation, anti-MOG hypotheses were made. Laboratory tests showed 1024 titration positive for anti-MOG, CSF with absent oligoclonal bands, visual evoked potential showing probable demyelination of the optic nerves and investigation of rheumatological diseases and serologies were negative. Discussion: The patient started a nonspecific clinical picture with seizures and radiological lesions that didn‘t fit for the diagnosis of multiple sclerosis. Changes in visual evoked potential, in addition to magnetic resonance lesions of the head and epilepsy clinic, raised suspicions about MONEM. Final remarks: this case is a MONEM clinic that demonstrates the importance of differential diagnosis in cases presented with signs of epilepsy and demyelination.

MAYRA MAGALHAES SILVA - Mayra.magalhaes.ms@gmail.com

Poster Presentation - Clinical findings

95868 - MORVAN□S SYNDROME - A CASE REPORT

NNATANNY RABELO ALVARES DA SILVA / HOSPITAL SOCOR; THAÍS NEVES LIMA / HOSPITAL SOCOR; NATHALIA CARVALHO BRAGA / HOSPITAL SOCOR; PEDRO HENRIQUE DA SILVA FERRAZ / HOSPITAL SOCOR; RAFAEL LUIS SOARES DE CAMARGOS / HOSPITAL SOCOR; VINICIUS CHINELLATO LIMA DE CARVALHO / HOSPITAL SOCOR; DIEGO DIAS RAMOS DORIM / HOSPITAL SOCOR; EUSTAQUIO CLARET DOS SANTOS / HOSPITAL SOCOR; GISELE NOVAIS MATIAS SION / HOSPITAL SOCOR;

MORVAN□S SYNDROME - A CASE REPORT CASE REPORT A 77-year-old male patient, with controlled high blood pressure, presented to a tertiary care hospital with a 3-month history of mental confusion, altered memory and language, visual hallucinations and new-onset seizures. Biochemical test at admission showed hyponatremia (serum Na: 120mEq/L), maintened during the hospitalization. After two days, he had a sudden decrease in the level of consciousness and generalized myoclonus, being taken to the intensive care unit. It was initiated valproic acid with an improvement, his cerebrospinal fluid (CSF) analysis showed clean, glucose 106, proteins 49 and cytometry 2. Brain MRI demonstrated hypersignal activity in the bilateral capsula, temporal and frontal region. Electroencephalogram showed diffuse slowing of the base. He persisted with mixed delirium with periods of intense agitation, insomnia that culminated in important daytime sleepiness, associated with urinary retention and the need to pass a bladder catheter and neuromyotonia. Extensive propaedeutics for rapidly progressive dementia including autoimmune panel was performed, with positive LGI1 (leucine-rich glioma inactivated 1). Therapy performed with pulse therapy (methyprednisone) followed by immunoglobulin, with good response. DISCUSSION Morvan□s syndrome is a rare neurological condition characterized by the combination of central and peripheral symptoms such as neuromyotonia, dysautonomy and encephalopathy associated with laboratory evidence of the VGKC antibodies LGI1 and CASPR2. The diagnosis of Morvan‘ s Syndrome is clinical, it is important to make a paraneoplasic screening. Some cases are reported with spontaneous remission and others that require extensive treatment, with immunotherapy, including plasmapheresis and immunosuppression. FINAL COMMENTS VGKC antibodies have been reported in association with three main clinical syndromes: neuromyotonia, Morvan□s syndrome and limbic encephalitis. Although our patient had a good response to the treatment instituted, he died four months after due to severe sepsis.

NATANNY RABELO ÁLVARES DA SILVA - naty_alvares@hotmail.com

Poster Presentation - Clinical findings

96753 - NEUROLOGICAL MANIFESTATIONS AND CSF FINDINGS IN PATIENTS WITH NEUROLOGICAL MANIFESTATIONS ASSOCIATED WITH COVID-19: A RETROSPECTIVE SERIES OF 13 PATIENTS.

Renan Barros Domingues / Senne Líquor Diagnóstico; Maria Cássia Mendes-Correa / Setor de Virologia (LIM-52), Instituto de Medicina Tropical, Universidade de São Paulo, SP; Fernando Brunale Vilela de Moura Leite / Senne Liquor Diagnóstico; Heuder Gustavo Oliveira Paião / Setor de Virologia (LIM-52), Instituto de Medicina Tropical, Universidade de São Paulo, SP; Tania R. Tozetto-Mendoza / Setor de Virologia (LIM-52), Instituto de Medicina Tropical, Universidade de São Paulo, SP; Adriano Tomás Pataca / Rede D' Or Hospital São Luiz; Carlos Augusto Senne Soares / Senne Liquor Diagnóstico;

Introduction: COVID-19 neurological abnormalities have been described, however, there are still limited data about CSF data in these patients. Methods: Here we describe CSF findings in 13 patients with COVID-19 and neurological findings. All CSF analyses were carried out at Senne Liquor. RT-PCR for SARS-COV-2 was carried out in nasal swab and CSF at IMT-SP. COVID-19 diagnosis was established when RT-PCR was positive in nasal swab and/or CSF. Neurological manifestations were classified as: 1) headache/suspected meningitis; 2) encephalopathy/encephalithis, and 3) focal neurological signs. Data from the groups 1 and 2 were compared with Mann-Whitney and Fisher Exact's test. Results: Neurological manifestations were headache/suspected meningitis (10 patients), encephalopathy/encephalitis (2 patients), and focal neurological sign (hemihypoestesia) in one. There were not significant differences between Groups 1 and 2 regarding age (41,9±19,9 and 57,5±10,6, respectively P=0,25), gender (P=1), WBC (mm3) (2,4±2,4 and 13±11,3, respectively, P=0.41), Protein (mg/dl) (41,9±16,5 and 64±22,6, respectively, P=0.98), Lactate (mg/dl) (16±3,5 and 20,5±2,4, respectively, P=0.27), and Glucose (mg/dl) (79,5±35,9 and 71±15,5, respectively, P=0.62). No cases from Groups 1 and 2 had the SARS-COV-2 detected in CSF. The two cases with encephalopathy/encephalitis had not neuroradiological findings suggestive of encephalitis but had cognitive abnormalities at the hospital discharge and this proportion was significantly higher than in Group 1 (P=0.015). In the patient with hemihypoesthesia a MRI cervical spinal cord lesion was registered and the patient was diagnosed as Clinically Isolated Syndrome (CIS). In this patient CSF RT-PCR was positive for SARS-COV-2, with no other CSF abnormalities. Discussion: There was a significant difference in the proportion of patients with cognitive abnormalities at the discharge in the group with encephalopathy/encephalitis. Larger studies are still necessary since the number of patients was small in the present study. Long term follow up of the cognitive abnormalities of these patients is necessary.

RENAN DOMINGUES - contato@renandomingues.med.br

Poster Presentation - Epidemiology and MRI

93311 - MULTIPLE SCLEROSIS LIKE AND IMMUNODEICIENCY VIRUS - A CASE REPORT

FERNANDO DE PAIVA MELO NETO / CENTRO UNIVERSITÁRIO DE JOÃO PESSOA - UNIPÊ; FERNANDO DE PAIVA MELO NETO / CENTRO UNIVERSITÁRIO DE JOÃO PESSOA - UNIPÊ;

Introduction: Multiple sclerosis (MS) is an autoimmune, inflammatory and demyelinating disease that affects the Central Nervous System (CNS). Multiple-sclerosis (MS-Like), in its turn, is a mimicry of MS caused by the human immunodeficiency virus (HIV) that, after proper treatment, byr educing viral load and improving CD4 levels, here maybe an attenuation of the lesions and improvement of the neurological health framework. Objectives: To verify if HIV activates two endogenous retroviruses from the family of endogenous human retroviruses - W, multiple sclerosis-associated retrovirus, and Syncytin-1, whose neuropathogenic and immunopathogenic properties could contribute to neurodegeneration verified in MS-like. To establish and under stand the association between the mechanisms of HIV pathogenesis and the involvement and progression of MS-like .Methodology: The study involved monitoring the evolution of HIV-positive patients, users of the referral service in MS treatment in the state of Paraíba, by reviewing the medical chart. Moreover, the hypothesis of influence and association between the pathological complications resulting from the viral infection and that have repercussions on the neurological impairment, as well as the evolution and prognosis of the patient with both affections were tested. Discussion / Conclusion: Neurological complicationsof HIV infectionremain common, althougheffectiveantiretroviraltherapy.Neurologicalmanifestationscanbecausedbyopportunistici nfection, immunereconstitutionorbythevirus, representingdiagnosticchallenges for neurologists, who are alsoaskedtocommentonthe use ofimmunomodulatoryagents in thesepatientsandtoadministercomplications. The physiopathologicalcorrelationbetweenprevious HIV involvementandthedevelopmentof MS-like, resultingfrom a sequenceofharmfuleventsthat trigger aninflammatoryprocess, culminatingwithoxidative stress andconsequentneurodegeneration, typicalofmultiplesclerosis, wasverified. The results do notindicateif it istheinfectionor its treatmentthatismimicking MS.The immediate cause ofthesymptomsof MS-likeisthatthemimicrythatthepatientdevelops, in thesenseofattackingthe CNS, specificallythemyelinsheaththatisolatestheinvolvedneurons, generatesthetypicalsymptomsoftheneurologicalpathology.

ANA BEATRIZ ONIAS ALVES DA SILVA - biaonias@gmail.com

Poster Presentation - Epidemiology and MRI

96889 - CLINICAL AND EPIDEMIOLOGICAL FEATURES OF MULTIPLE SCLEROSIS IN RIO GRANDE-RS

Cheple Roberto da Silva Abib / A.C. Santa Casa de Rio Grande/Universidade Federal do Rio Grande (FURG); Leonardo Alves / A.C. Santa Casa de Rio Grande/Universidade Federal do Rio Grande (FURG); Raul Sassi Mendonza / Universidade Federal do Rio Grande (FURG);

Introduction: Epidemiological studies on multiple sclerosis (MS) have suggested that the interaction between genetic susceptibility and environmental factors may be the key to the differences in prevalence between different communities. Objectives: To describe the clinical and epidemiological characteristics of patients enrolled in the city of Rio Grande-RS. Methods: We included 30 patients with confirmed clinical diagnosis of MS according to the Poser and McDonald criterias, the clinical form of Lublin et al. and by the inability scale (EDSS) of Kurtze. Results: Of 30 patients, 70% are female, the proportion of women to men was 2.3:1, only 6% were non-Caucasian. The clinical type of relapsing-remitting MS (RRMS) was the most frequently found, being evident in 86% of patients, followed by the secondary progressive form (SPMS), with 6% of patients, with 3% relapsing-progressive form (PRMS) and primary progressive (PPMS). The average age was 45 years. The age distribution was as follows: 25-34 years: 26% of patients, 35-44 years: 20% of patients, 45-54 years: 26% of patients, 55-64 years: 20% of patients, and, 65 years and over: 6.6% of patients. The majority of patients had only one location of the disease, the most frequent was the pyramidal tract, followed by tract sensory, cerebellar and optic pathway. The EDSS found in patients was: 0-3, 53%; 3.5 to 6.5, 36.7%; 7 or higher, 10%. They use 83% of patients medication. Average time evolution related to the date of diagnosis was 7 years; Time evolution of 0-4 years, 30% patients, 5-9 years, 36.7% of patients, 10-14 years, 26.7% of patients, 15-19 years, 3.3% of patients, 20 years or older, 3.3% of patients. Conclusion: The results obtained in Rio Grande-RS of MS patients are in agreement with previous studies conducted in other Brazilian populations.

CHEPLE ROBERTO ABIB - abib@vetorial.net

Poster Presentation - Epidemiology and MRI

96649 - UNDERSTANDING THE RELATIONSHIP BETWEEN OBESITY IN CHILDHOOD AND ADOLESCENCE AND MULTIPLE SCLEROSIS

Brunna Abreu de Oliveira / UNESA - RJ; Gabriela Girão de Albuquerque / UNESA - RJ; Isabela Moreira Braz de Lima / UNESA - RJ; Marluza Tedesco de Marco / UNESA - RJ; Matheus Figueiredo Valadares / UNESA - RJ; Nathalia Ramos Pedrosa / UNESA - RJ; Paulo Machado Pontes / UNESA - RJ; Ricardo Felipe dos Santos Silva / UNESA - RJ; Talles Ayres Lima / UNESA - RJ; Yasmin Trindade Bandoli / UNESA - RJ; Gutemberg Augusto Cruz dos Santos / UNESA - RJ / UFF;

Background: excess body fat in childhood and adolescence is linked to several comorbidities, including multiple sclerosis (MS). The mechanisms by which obesity can increase the chance of developing MS are poorly understood. Aim: to discuss the relationship between obesity in childhood and adolescence and the risk of developing multiple sclerosis in children and adults. Methodology: scientific articles published in indexed journals obtained from the Pubmed database were used, using the descriptors multiple sclerosis, obes *, children, pediatric and adolescent. Results and discussion: IL-6 concentrations are high in the CSF of patients with MS and can negatively impact the course of the disease. Increased levels of pro-inflammatory molecules in the CSF could promote reactivation of MS and neurodegeneration, representing a possible pathophysiological mechanism intrinsic to the course of the disease observed in obese patients. The main adipokines involved in the genesis of MS are leptin, adiponectin, visfatin and resistin. Patients with MS have low levels of vitamin D and this participates in the regulation of inflammatory processes, being able to act preventively against autoimmune diseases. Conclusion: the pathophysiology involved in the development of multiple sclerosis in individuals who were obese at an early age is multifactorial and the three most discussed mechanisms today are the chronic inflammatory condition mediated by the secretion of cytokines; the unregulated secretion of adipokines and changes in vitamin D levels. Obesity is a modifiable risk factor and its prevention could have an impact on reducing the damage caused by MS.

GUTEMBERG SANTOS - gutemberg.c.santos@globo.com

Poster Presentation - Epidemiology and MRI

96257 - REMOTE SCREENING OF COVID-19 IN NEUROIMMUNOLOGICAL DISORDERS: IS TELEMEDICINE HERE TO STAY?

Igor Bessa Santiago / Hospital Geral de Fortaleza; Milena Sales Pitombeira / Hospital Geral de Fortaleza; Lucas Silvestre Mendes / Hospital Geral de Fortaleza; Ivna Lacerda Pereira Nóbrega / Hospital Geral de Fortaleza; Iury Hélder Santos Dantas / Hospital Geral de Fortaleza; Keyla Rejane Frutuoso de Morais / Hospital Geral de Fortaleza; Patrícia Chagas Rocha D' Almeida / Hospital Geral de Fortaleza; Carla Welch da Silva / Hospital Geral de Fortaleza; Paulo Sérgio Alves Lisboa / Hospital Geral de Fortaleza; Maria Luisa Pereira de Melo / Hospital Geral de Fortaleza; Gabriela Joca Martins / Hospital Geral de Fortaleza; José Artur Costa D' Almeida / Hospital Geral de Fortaleza;

Introduction: The coronavirus disease 2019 (COVID-19) crisis and the need to evaluate patients from distance due to social isolation has brought telemedicine into a new light. In response to the pandemic, our center for multiple sclerosis (MS) and other demyelinating diseases rapidly switched from in-person to remote telehealth care. Our initial goal was to apply remote screening for COVID-19 cases and provide guidance for those that matched the criteria. Results: From 464 registered patients, 342 were successfully contacted by phone calls. 67 patients were defined as suspects due to matching COVID-19 symptoms. 37 answered the follow-up call, 78.3% were female and 66.7% were relapsing-remitting MS patients. The most common disease modifying drug in use was dimethyl fumarate (16.7%) and fingolimod (13.9%), the less being natalizumab (5.6%). 19.4% of them interrupted the current treatment during the crisis. The majority (77.8%) had no comorbidities and 61.1% presented symptoms within 4 weeks of the first contact. The most prevalent symptoms were headache (58.3%), cough (52.8%) and myalgia (50%). About 36.1% reached medical care, but 52.6% were submitted to some sort of COVID-19 treatment, what implies in cases of self-medication, the most common being azithromycin (50%) and the less, chloroquine (13.9%). 2 patients were admitted to hospital care and there no deaths. 19.4% were confirmed cases, 19.5% were discarded and 61.1% remained as suspects due to lack of diagnostic tests. 94.4% of the patients were asymptomatic by the follow up call. Conclusion: We converted most of our patient care to telehealth encounters and were able to effectively submit them to a COVID-19 screening. The experience and the findings suggest that the strategy is feasible and effective for a large proportion of patients. Although additional guidance is needed to ensure its, for the moment we can say that telehealth is here to stay.

IGOR BESSA SANTIAGO - igor-bess@hotmail.com

Poster Presentation - Epidemiology and MRI

96259 - SERIES OF CASES OF PSEUDOTUMORAL LESIONS AS AN ATYPICAL FORM OF MULTIPLE SCLEROSIS: A CHANGE OF PERSPECTIVE.

Igor Bessa Santiago / Hospital Geral de Fortaleza; Lucas Silvestre Mendes / Hospital Geral de Fortaleza; Milena Sales Pitombeira / Hospital Geral de Fortaleza; Ivna Lacerda Pereira Nóbrega / Hospital Geral de Fortaleza; Iury Helder Santos Dantas / Hospital Geral de Fortaleza; Keyla Rejane Frutuoso de Morais / Hospital Geral de Fortaleza; Patrícia Chagas Rocha D' Almeida / Hospital Geral de Fortaleza; Gabriela Joca Martins / Hospital Geral de Fortaleza; José Artur Costa D' Almeida / Hospital Geral de Fortaleza;

Introduction: Multiple sclerosis (MS) is a demyelinating disease of multifactorial etiology that appears in genetic susceptible patients exposed to environmental factors. Pseudotumoral lesions (PL), considered an atypical form, can often be found and are characterized by a minimal diameter of 3cm, round shape, regular borders, perilesional edema, incomplete ring contrast enhancement and mass effect. Data regarding prognosis are limited and do not always asses the same outcomes. Case Reports: Patient 1: 44-years-female presented with severe relapsing remitting MS (RRMS) in 2005. Brain MRI showed tumor-like white matter lesions (WML) in both hemispheres and corpus callosum. It was poorly controlled by first line disease modifying drugs (DMD) availabe at the time with better response after Natalizumab in 2013. Current EDSS of 6.5. Patient 2: 34-years-male presented with visual symptoms and vertigo. Brain MRI showed tumefactive WML in bilateral periventricular regions and brainstem. Due brain tumor suspicion the patient was submmited to a biopsy, disclosing only inflammatory findings. The patient was treated with intravenous methylprednisolone pulse therapy (IVMP) and the DMD of choice was Fingolimod. Current EDSS of 1.0. Patient 3: 32-years-female presented with mild relapsing RRMS. Brain MRI suggested balo concentric sclerosis. The patient was submmited to IVMP and the DMD of choice was interferon beta-1a, later modified to Fingolimod due to side effects. Current EDSS of 0. Discussion: PL represent a diagnostic challenge as it can be mistaken with other diseases. Often the initial manifestation can be agressive but an overall prognosis may be better than in conventional form, with fewer relapses and less disability. Recommendations for treatment are based on case reports and series but corticosteroids are the usual firstline treatment. An early diagnosis and treatment seems to be linked to a better outcome despite the size of lesions.

IGOR BESSA SANTIAGO - igor-bess@hotmail.com

Poster Presentation - Epidemiology and MRI

93472 - THE IMPORTANCE OF PPD TEST IN PATIENTS ARE LIVING IN RIO DE JANEIRO

Kamilla d'Aveiro Fernandez / State University of Rio de Janeiro; Felipe da Rocha Schmidt / State University of Rio de Janeiro; Fabiana Cavalcanti de Souza Lima / State University of Rio de Janeiro; Cristiana Pessoa de Queiroz Faria Goes / State University of Rio de Janeiro;

Case Presentation A 41 year-old woman with aggressive Relapsing-remitting Multiple Sclerosis in use of Ocrelizumab since December 2018, presents in December 2019 with the PPD test 10mm. She had no respiratory simptoms and chest CT showed no active disease. Treatment to latent TB was started with Isoniazid and Ocrelizumab infusion was delayed. A 34 year-old man with Primary Progressive Multiple Sclerosis started treatment with Ocrelizumab in January 2019. He had the PPD test positive with 25mm in July 2019. He had no respiratory simptoms but the chest CT showed a 1,1 cm lesion in left superior lung lobe. Standart treatment to active TB was started and Ocrelizumab infusion was delayed. Discussion: Tuberculosis (TB) is a major problem in developing countries and it stays in the list of the main causes of death in the World. Brazil has an important part of that. The State of Rio de Janeiro has the second worst numbers of mortality and new cases in all country. The antiCD20 therapies depletes B lymphocites, important cells in the mechanism of many autoimmune diseases. The result of the cell depletion could be low titers of antibodies. It is possible that the use of these therapies could reactivate chronic infectious diseases like TB, but the available data are equivocal. It has been described a few cases of this association, all then with Rituximab use. Final Comments: The State of Rio de Janeiro has one of highest TB incidence in Brazil. Despite the lack of high quality data, the reported cases shows the importance of TB screening in this population.

KAMILLA D‘ AVEIRO FERNANDEZ - kamilladaveiro@gmail.com

Poster Presentation - Epidemiology and MRI

93480 - CLINICAL AND DEMOGRAPHIC CHARACTERISTICS OF THE LATE ONSET MULTIPLE SCLEROSIS

Keila Narimatsu / Santa Casa de Misericordia de São Paulo; Luiza Ramos de Freitas / Santa Casa de Misericordia de São Paulo; Natalia Trombini Mendes / Santa Casa de Misericordia de São Paulo; Ronney Pinto Lopes / Santa Casa de Misericordia de São Paulo; Lohana Santana Almeida da Silva / Santa Casa de Misericordia de São Paulo; Tamara Melissa Zavadzki Albuquerque / Santa Casa de Misericordia de São Paulo; Paulo Henrique Maia de Freitas / Santa Casa de Misericordia de São Paulo; Guilherme Sciacia do Olival / Santa Casa de Misericordia de São Paulo;

Introduction: Late onset multiple sclerosis (LOMS) is characterized by the onset of symptoms after 50 years of age, representing 4.5% of patients with multiple sclerosis (MS). Objective: To describe the demographic and clinical characteristics in patients with late onset multiple sclerosis currently in treatment in the first Brazilian center for multiple sclerosis, founded in 1997. Design/Methods: In this retrospective study, clinical and demographic data of 399 patients with definite MS using the revised 2017 McDonald diagnostic criteria were reviewed between October 2018 and September 2019 from the medical records of a MS Care and Treatment Center in Sao Paulo, Brazil. Clinical data included: age at onset; first-reported symptoms; disease course and duration; EDSS scores in the first and last visit. Results: LOMS frequency was 3.5%, mean age at the time of diagnosis was 52.78 years and none of patients experienced an onset after age 60. Most patients were female (71.42%) and had a relapsing-remitting disease course (71.42%). Motor onset symptoms were more prevalent (42.85%), followed by optic neuropathy (21.42%). The mean EDSS score at the first and last visit was 4 and 4.35, respectively. Median time to EDSS 6 was 1.5 years. Conclusions: LOMS diagnosis is not common and it is usually delayed. Despite the higher prevalence of relapsing-remitting course in our sample, when the diagnosis is made the patients have a high disability score, in addition to a higher prevalence of motor disability.

KEILA NARIMATSU - k.narimatsu@hotmail.com

Poster Presentation - Epidemiology and MRI

93443 - COGNITIVE IMPAIRMENT IN PROGRESSIVE AND RELAPSING-REMITTING MULTIPLE SCLEROSIS: NEUROPSYCHOLOGICAL AND NEUROIMAGING ASSESSMENT

Larissa Carla de Paula Gois / UNICAMP; Benito Pereira Damasceno / UNICAMP; Alfredo Damasceno / UNICAMP;

Background: Cognitive impairment (CI) is common in multiple sclerosis (MS) patients. Researches comparing the profiles and degree of CI in different courses of the disease have been scarce and their results heterogeneous. The primary goal of this research is to investigate the pattern of CI in progressive multiple sclerosis (PMS) compared to relapsing-remitting multiple sclerosis (RRMS) in correlation with magnetic resonance imaging (MRI). Methods: Thirty patients with PMS and twenty-four with RRMS were recruited and underwent neurological, neuropsychological (BRB-N, 30-item Boston Naming Test and The Tower of London Test), and MRI assessments. Results: In both patient groups, the most affected cognitive domain was information processing speed, followed by visual memory. Patients with PMS had more combined cognitive deficits than RRMS (53.3% and 26.1%, respectively), but this difference did not persist after controlling for EDSS scores. Lesion load and deep gray matter atrophy were significantly associated to cognitive performance in the overall study sample. Conclusion: Poorer cognitive performance in patients with PMS would be more associated to physical disability than to disease subtype itself, and the neuropsychological profile of these patients were similar to those with RRMS. White matter lesion burden and deep gray matter atrophy explain, at least in part, CI in MS.

LARISSA CARLA DE PAULA GOIS - larissacpgois@gmail.com

Poster Presentation - Epidemiology and MRI

96248 - AUTOMATIC SEGMENTATION AND QUANTIFICATION OF BRAIN LESIONS IN MRI OF MULTIPLE SCLEROSIS PATIENTS

Marcela de Oliveira / School of Sciences - São Paulo State University (UNESP); Felipe Balistieri Santinelli / School of Sciences - São Paulo State University (UNESP); Marina Piacenti da Silva / School of Sciences - São Paulo State University (UNESP); Fernando Coronetti Gomes da Rocha / Medical School - São Paulo State University (UNESP); Fabio Augusto Barbieri / School of Sciences - São Paulo State University (UNESP); Jorge Manuel Santos / ISEP - School of Engineering - Polytechnic of Porto; Jaime dos Santos Cardoso / INESC TEC and Faculty of Engineering, University of Porto; Paulo Noronha Lisboa-Filho / School of Sciences - São Paulo State University (UNESP);

Introduction: Magnetic resonance imaging (MRI) is the gold standard exam for diagnosis and follow-up of neurodegenerative diseases, such as multiple sclerosis (MS), a chronic neurological disease characterized by demyelination of axons. This demyelination process causes lesions in white matter that can be observed in MRI. Such lesions may provide quantitative assessments of the inflammatory activity of the disease, and possibly herald future brain atrophy and clinical disability. Quantitative measures of lesions have been shown to be useful in clinical trials for evaluating possible therapies. Manual segmentations brain lesions in MRIs is considered as the gold standard, however, this process is time consuming and error prone. Therefore, automated segmentation and quantification lesions is an area that is under development, and can assist health professionals in diagnosis and therapeutic follow-up. Objectives: The aim of the present study was to perform the automatic segmentation and quantification of brain lesion in MRIs of patients with multiple sclerosis. Methods: We used three MRI scans with T1 weighted and FLAIR sequences of multiple sclerosis patients. In the first processing step, after MRIs being rigidly registered, we to perform brain extraction by skull stripping and bias correction for intensity inhomogeneity. In the second step, we applied the models trained via convolutional neural networks to predict the segmentation of brain lesions. Finally, the quantification was performed by counting the segmented voxels in the binary mask. Results and Conclusions: We observed an average brain volume of 3.11x104mm3. Results from the second and final steps, show that brain lesions automatically segmented and quantified by convolutional neural networks are according to the expert□s manual segmentation and quantification, allowing us to conclude that the automatic method presented in this work can contribute to assist health professionals in the diagnosis and monitoring of patients with neurodegenerative diseases.

MARCELA DE OLIVEIRA - marcela.oliveira@unesp.br

Poster Presentation - Epidemiology and MRI

96648 - HIGHER INNATE IMMUNE CELLS ACTIVATION IS ASSOCIATED WITH DISABILITY IN PATIENTS WITH RELAPSING-REMITTING MULTIPLE SCLEROSIS: A ^{11}C-PK11195 PET STUDY

Milena Sales Pitombeira / Faculdade de Medicina, Universidade de São Paulo; Kenia Repiso Campanholo / Faculdade de Medicina, Universidade de São Paulo; Aline Morais de Souza / Faculdade de Medicina, Universidade de São Paulo; Fábio L.S. Duran / Faculdade de Medicina, Universidade de São Paulo; Samira Luisa Apostolos Pereira / Faculdade de Medicina, Universidade de São Paulo; Carolina de Medeiros Rimkus / Faculdade de Medicina, Universidade de São Paulo; Maria Fernanda Mendes / Faculdade de Medicina, Universidade de São Paulo; Geraldo Busatto Filho / Faculdade de Medicina, Universidade de São Paulo; Dagoberto Callegaro / Faculdade de Medicina, Universidade de São Paulo; Carlos Alberto Buchpiguel / Faculdade de Medicina, Universidade de São Paulo; Daniele de Paula Faria / Faculdade de Medicina, Universidade de São Paulo;

Introduction: Activation of innate immune cells in the central nervous system affects white and grey matter in multiple sclerosis (MS), contributing to neuroaxonal loss. As conventional magnetic resonance imaging (MRI) is unspecific to this chronic inflammation, positron emission tomography (PET) is a useful method for understanding in vivo pathology. Objectives: To evaluate neuroinflammation patterns in patients with relapsing-remitting MS (RRMS) and different disability levels. Methods: ^{11}C-PK11195 PET were acquired in a hybrid PET/MRI system from 28 subjects with RRMS. Clinical evaluation at inclusion and 12 months later using Expanded Disability Status Scale (EDSS) and Multiple Sclerosis Functional Composite (MSFC) was performed. Disability stratification was done considering EDSS ≥ 3.0 as cutoff. PMOD was used to quantify 11C-PK11195 distribution volume (Vt) through VOI-based analyzes. T2-lesion load was calculated by Lesion Segmentation Tool from SPM 8. Results: Patients with EDSS <3 (n=11; mean age: 36.5, ±7.5) had lower ^{11}C-PK11195 uptake (Vt) compared to patients EDSS ≥ 3.0 (n=17, mean age 34.6, ±8.5) in cerebellar cortex (p=0.047), brainstem (p=0.033), thalamus (p=0.042), and putamen (p=0.047). EDSS ≥3 group had also higher T2-lesion load (median 30.6 ml vs. 13.7 ml, p = 0.029). Higher ^{11}C-PK11195 uptake in deep grey matter correlated with worse performances in 25-foot-walk (both, p=0.045) in EDSS ≥ 3.0 group. Among 21 patients reevaluated, 4 who had relapses presented higher median ^{11}C-PK11195 uptake than those with no relapses, while only 1 was considered active by MRI at inclusion. Conclusion: ^{11}C-PK11195 PET disclosed significantly higher innate immune cells activation in patients with RRMS and EDSS ≥3.0 in brainstem, cerebellar cortex, and deep grey matter, being the latter correlated with impaired walk.

MILENA SALES PITOMBEIRA - milenaspitombeira@gmail.com

Poster Presentation - Epidemiology and MRI

96799 - MORTALITY AND LETHALITY RATE IN A COHORT OF PATIENTS WITH MULTIPLE SCLEROSIS IN RIO DE JANEIRO BEFORE COVID 2019 PANDEMIC

Raquel Libanesa Rosario Beltré / Universidade Federal do Estado do Rio de Janeiro (UNIRIO); Regina Maria Papais Alvarenga / Universidade Federal do Estado do Rio de Janeiro (UNIRIO);

BACKGROUND: Multiple sclerosis is a chronic, neurodegenerative, immune-mediated disease of the central nervous system caused by complex genetic-environment interactions. AIMS: To obtain the mortality and lethality rate by sex of the cohort of patients with multiple sclerosis between the years 1997 to 2018 by analyzing the data base of the neurological service, and to identify the primary cause of death. METHODS: A cross-sectional descriptive study was carried out in 1,131 cases identified and treated as multiple sclerosis (different phenotypes). Frequency and comparatives analysis were applied, and mortality and lethality annually rate stratified by sex, and two periods of 11 years each were also calculated. RESULTS: the cohort was composed by 74% female and 65% white ethnicity. The mean mortality rate was 0.012 +_ 0.14 for females, and 0.002 +_ 0.005 for males. The year 2008 registered the highest rate with 0.0252 per 100,000 inhabitants in the cohort. Females have a higher mortality rate than males (p 0.003, CI 95% 0.003-0.017). The higher mortality rate in females was recorded in the years 2008 and 2017. The lethality rate show statistic significant difference between males and females (mean 0.026, p 0.002, CI 95% 0.035-0.146). The second 11 years period registered the highest lethality rate, which was 2%. The most common primary cause of death at the death certificate was the Sepsis with unspecified organism (International Classification of Disease 10, A 419). CONCLUSION: the mortality rate in multiple sclerosis patients is low, and females are the most affected.

RAQUEL LIBANESA ROSARIO BELTRÉ - raquel_rosario7@hotmail.com

Poster Presentation - Immunology and basic science

96241 - PEOPLE WITH MULTIPLE SCLEROSIS NEED TO ADJUST MORE GAIT PARAMETERS THAN HEALTHY SUBJECTS DURING A COMPLEX WALKING

Felipe Balistieri Santinelli / São Paulo State University (UNESP-Bauru); Lucas Simieli / São Paulo State University (UNESP-Bauru); Emerson Sebastião / Northern Illinois University (NIU-Dekalb); Luiz Henrique Palucci Vieira / São Paulo State University (UNESP-Bauru); Marcela de Oliveira / São Paulo State University (UNESP-Bauru); Paulo Noronha Lisboa-Filho / São Paulo State University (UNESP-Bauru); Marina Hiromi Kuroda / São Paulo State University (UNESP-Bauru); Fabio Augusto Barbieri / São Paulo State University (UNESP-Bauru);

Introduction: People with Multiple Sclerosis (PwMS) often presented gait impairments, such as gait variability. Gait variability has been liked with higher fall-rate. Also, walking in a complex environment, for example, avoid an obstacle, is a challenging daily life task and related to falls-rate. However, is still unclear how people PwMS deal with a complex environment, mainly related to gait variability. Objective: To investigate gait variability in PwMS during a complex walking, such as avoiding an obstacle. Methods: Twenty-two PwMS (1.67±0.09m, 74±13kgs, 33.4±8.2 years, 2.36±1.28 EDSS, 1.95±1.17 PDSS) and 18 healthy controls (HC- 1.67±0.08m, 67.9±10.8kgs, 32.5±6 years) were enrolled in this study. The participants performed ten gait trials in a walkway (8m) with an obstacle positioned in the middle (4m). The participants should avoid the obstacle, without contacting it. A three-dimensional system (Vicon Motion system®) captured the motion of the reflective markers positioned in the 2nd metatarsal and in the heel of both feet, which are used for the gait variables calculation (step length, width, duration, velocity, and double support). The gait analysis was divided into two moments (approaching phase-AP the mean of the three steps before obstacle avoidance and; crossing phase- trailing and leading step). The standard deviation of the trials was defined as the measure of gait variability. The ANOVA one-way (PwMS x HC) was used as statistical analysis. Results: The PwMS presented greater step length variability in the AP [$F_{1,38}=3.98$, $p<0.05$] and greater step duration variability for the leading step [$F_{1,38}=7.95$, $p<0.008$] and double support time variability for the trailing step [$F_{1,38}=7.78$, $p<0.008$] compared with the HC. Conclusion: Is possible to suggest that PwMS need to adjust more gait parameters to walking in a complex environment, such as avoiding an obstacle. This higher variability could justify the higher fall-rate that this population present compared to healthy people.

FELIPE BALISTIERI SANTINELLI - fb.santinelli@unesp.br

Poster Presentation - Immunology and basic science

96523 - ANTI-GAD-ASSOCIATED LIMBIC ENCEPHALITIS: CASE REPORT

Gisele Novais Matias Sion / Santa Casa BH; Barbara Márcia Rocha Sousa / Santa Casa BH; Antônio Pereira Gomes Neto / Santa Casa BH;

A 30-year-old diabetic female patient was found at home with unprecedented generalized clonic tonic seizure in June 2019 and taken to emergency facility, were she was treated with diazepam and insulin - under the hypothesis of diabetic ketoacidosis. She was transferred to the ICU after a few hours. Exams ruled out ketoacidosis, the cranial CT scan was normal. Lumbar puncture and hydanthonization were performed and empirical treatment of meningitis started with the initial hypothesis of herpetic encephalitis. CSF showed normal cellularity, negative cultures and a protein of 89. The patient had previously hypothyroidism and type 1 diabetes. After 1 week, she maintained a comatose state, hyperreflexia and bilateral Babinski. It was decided to begin pulse therapy with methylprednisolone 1g IV for 5 days. Patient showed progressive neurological improvement. She was discharged to the infirmary after 1 week, she did not tolerate the use of oral corticosteroids due to decompensated diabetes. A family member reported that in the last few days the patient presented a behavioral change, was more anxious than usual, less spontaneous and more silent. She had headaches and used medications for labyrinthitis on her own. Family members deny fever, infections or vaccines. It was performed a cancer screening, that came back negative. Laboratory exams showed TSH 6.06, anti-TPO 0.7, T4 0.71, anti-thyroglobulin 49.80 and anti-GAD: 2000. The head was normal. The diagnosis of anti-GAD limbic encephalitis was given, the patient remains asymptomatic.

GISELE NOVAIS MATIAS SION - giselenovais@yahoo.com

Poster Presentation - Immunology and basic science

95488 - A COMPUTATIONAL MODEL OF THE ROLE OF THYMIC CONTROL IN THE PATHOGENESIS OF MULTIPLE SCLEROSIS

João Marcos Brandet / Centro Universitário Filadélfia - UniFil;

Introduction: The thymus is a specialized primary lymphoid organ of the immune system responsible for maturing T lymphocytes. Changes in thymic control can impair T cell maturation and selection. Studies demonstrate relationships between changes in thymic control and neuroimmunological disorders related to multiple sclerosis (MS). Objectives: To elaborate a computational model of the role of thymic control in the pathogenesis of multiple sclerosis. Methods: The model was elaborated based on computational simulations that analyzed (a) T cell maturation; (b) structural, biochemical and optical properties of thymulin, thymopoietin, and thymosins; (c) biochemical and functional properties of positive and negative selection of thymic control. The model, computational simulations and analyzes of this scientific work were elaborated with the use of software: ACD/ChemSketch, Swiss-PdbViewer, ABCpred, BepiPred-2.0, ElliPro, DEseq, GOseq, FunRich, Cytoscape, BiNGO, PepSurf, AxonDeepSeg, AxonSeg, Computer-assisted Evaluation of Myelin formation (CEM), PyMol, ICM-Browser, Visual Molecular Dynamics (VMD), Cell Illustrator, C-ImmSim, Simmune, GENESIS, NEURON, NeuronStudio and ChemDraw. Results: The computational model of this work suggests that changes in sphingosine unsaturation, angular deformations in N atoms in thymulin and disturbances in the protein folding of thymopoietin and thymosin can modify the thymic control inducing autoimmune reactions and immunological mechanisms without coordinated selection. Conclusion: Understanding the relation between mechanisms of immune-mediated destruction of central nervous system (CNS) components in MS and the role of thymic control in the pathogenesis promises to not only promote effective design of MS therapeutics, but also provides a broader understanding of immune-mediated diseases affecting the CNS.

JOÃO MARCOS BRANDET - jmbrandet@edu.unifil.br

Poster Presentation - MS treatment

93333 - THYROID DYSFUNCTION WITH THE CONTINUED USE OF BETA INTERFERON IN THE TREATMENT OF MULTIPLE SCLEROSIS.

BRUNA EMANUELLE ALVES PINTO / CENTRO UNIVERSITÁRIO DE JOÃO PESSOA - UNIPÊ; FERNANDO DE PAIVA MELO NETO / CENTRO UNIVERSITÁRIO DE JOÃO PESSOA - UNIPÊ; BIANCA ETELVINA SANTOS DE OLIVEIRA / FUNAD; BRUNA EMANUELLE ALVES PINTO / CENTRO UNIVERSITÁRIO DE JOÃO PESSOA - UNIPÊ; VIVIANE ROSADO NEGREIROS D´ASSUNÇÃO / CENTRO UNIVERSITÁRIO DE JOÃO PESSOA - UNIPÊ; DAVI VELOSO GUERRA / FUNAD; KARINA GUEDES CORREIA / CENTRO UNIVERSITÁRIO DE JOÃO PESSOA - UNIPÊ;

Thyroid dysfunctions possibly caused by the continued use of beta interferon medication in the treatment of Multiple Sclerosis (MS) are being pointed, by the scholars, as side effects to the immunomodulatory action of this interferon. Beta interferon is a non-glycosylated recombinant human interferon approved for subcutaneous and intramuscular administration that reduces the number of seizures and inflammatory activity of MS, as well as slows disease progression. Thus, from the modulation of the immune system, interferons can precipitate the development of thyroid autoimmunity. Thyroid disorders produce changes mainly in serum levels of thyroid stimulating hormone (TSH) and/or free thyroxine (T4L), which can be measured by laboratory tests. The present study aimed to investigate the presence of thyroid dysfunction due to the use of beta interferon in patients with multiple sclerosis. Method: It is a documentary, cross-sectional and analytical study with a quantitative approach. The sample for this research consisted of 35 medical records of Multiple Sclerosis patients with relapsing-remitting clinical presentation seen at the Paraíba Multiple Sclerosis Reference Center. Data collection occurred between August and October 2019 and was performed through data collection of patients using any of the available beta interferons, through their medical records. Data were analyzed using descriptive statistics and non-parametric Wilcoxon test. Results: It was observed that 80% of the patients were women and an average age of 32.43 ± 9.96 years was noted. TSH and T4L values after 6 months of beta-interferon use in most patients (n=33) remained within the normal range, but two patients had subclinical hypothyroidism. The use of beta interferon was not associated with thyroid dysfunction (p=0.061>0.05). Given this, the need for periodic laboratory tests to evaluate thyroid function routinely in patients using beta interferon is questioned. More studies are needed, with larger sample, to definitively clarify this theme.

BIANCA ETELVINA SANTOS DE OLIVEIRA - oliveira_bes@hotmail.com

Poster Presentation - MS treatment

93332 - USE OF CANABIDIOL IN A PATIENT WITH MULTIPLE SCLEROSIS AND TRIGEMINAL NEURALGIA

POLYANA MARIA CRUZ COLLAÇO / CENTRO UNIVERSITÁRIO DE JOÃO PESSOA - UNIPÊ; FERNANDO DE PAIVA MELO NETO / CENTRO UNIVERSITÁRIO DE JOÃO PESSOA - UNIPÊ; LARISSA EDILZA DE LIMA / CENTRO UNIVERSITÁRIO DE JOÃO PESSOA - UNIPÊ; VIVIANNE ALMEIDA DA NÓBREGA / CENTRO UNIVERSITÁRIO DE JOÃO PESSOA - UNIPÊ; JAIME JOSÉ DE SOBRAL MELO / CENTRO UNIVERSITÁRIO DE JOÃO PESSOA - UNIPÊ; RAISSA SARMENTO GADELHA MARQUES / CENTRO UNIVERSITÁRIO DE JOÃO PESSOA - UNIPÊ; PEDRO AUGUSTO PIRES PESSOA BATISTA RAFAEL / CENTRO UNIVERSITÁRIO DE JOÃO PESSOA - UNIPÊ; BIANCA ETELVINA SANTOS DE OLIVEIRA / FUNAD; POLYANA MARIA CRUZ COLLAÇO / CENTRO UNIVERSITÁRIO DE JOÃO PESSOA - UNIPÊ;

BACKGROUND: Multiple sclerosis (MS) is an inflammatory disease of the Central Nervous System (CNS) that affects young people and adults, can affect the trigeminal nerve causing painful conditions. With this, the need for the search for auricular therapy and the use of cannabidiol (CBD) to improve the condition. OBJECTIVES: To identify the benefits of using CBD for pain; To observe the improvement of neuralgia through auriculotherapy. DESIGN/ METHODS: Case report. RESULTS: Patient ME, 57 years old, woman, with MS and trigeminal neuralgia for 15 years, currently rated 7 in EDSS. The auriculotherapy started on August 29th, 2018, as a palliative measure for lower back pain and left hemiface neuralgia. The patient reported temporary improvement of the spasms. the cannabidiol therapy started on October 3th 2018. She started with 5 drops of cannabis, increasing gradually until taking 10 drops twice a day. In the first 10 days, the patient reported improvement, affirming an increase in the intervals between the episodes of pain in the left hemiface and no side effects. CONCLUSION: Evidence shows that the use of cannabidiol is important as a therapeutic option for the relief of the pain in patients with multiple sclerosis, especially in cases where there are not response to the conventional treatment, besides promoting discrete changes in the quality of life of these individuals. Despite the existence of adversity, these showed decline throughout the treatment. In addition, regarding the use of auriculotherapy, studies have shown a reduction in the mean intensity of pain, thus being an effective and safe method for patients with multiple sclerosis. However, the therapies lack more prospective studies with a greater number of patients.

BIANCA ETELVINA SANTOS DE OLIVEIRA - oliveira_bes@hotmail.com

Poster Presentation - MS treatment

95782 - UNMET NEEDS IN MS TREATMENT THROUGH PATIENTS AND NEUROLOGISTS PERSPECTIVES

Bruna Antinori / Merck; Alexandre Chehin / Merck; Joyce Gomes / Merck; Joyce Dias / Merck; Gustavo San Martin / AME;

Introduction: According to the literature, optimizing symptom management, delaying disability progression and promoting quality of life (QoL), remains unmet needs in the treatment of Multiple Sclerosis (MS). However, we lack from information of patient s point of view regarding this topic and if their opinion matches the neurologists one Objective: Assess the unmet needs in MS from physicians and patients perspectives in Brazil Methods: Through an online survey we evaluate the following topics faced by patients and neurologists: treatment´s satisfaction; adherence to disease-modifying drug (DMD); treatment and monitoring burden; knowledge about symptoms and disease. The online survey was sent by AME (Amigos Múltiplos pela Esclerose, a local non-governmental patient organization) to patients and neurologist. Results: 391 patients and 52 neurologists completed the survey. Overall, most of patients felt very satisfied (26.1%) or satisfied (46.5%) with their DMD and 71.9% reported never skipping doses. 44.5% of felt that treatment and monitoring burden impact in some aspects of QoL. 84,4% were aware about the diagnosis while 15.6% didn t know their disease course. Most frequent challenges were: side effects, long-term safety, costs and tolerability. However, while the biggest issue for patients were the long-term safety, for neurologists the short-term side effects management and tolerability were more challenging. Another highlight was the participation in therapeutic decision: only 28.4% of patients consider having participated, while 65.4% of neurologists affirm the decision is shared. Patients also would like to discuss about multidisciplinary care and other symptoms such as sexuality, cognition and emotional changes Conclusion: Compared to patient´s perspectives, neurologists overestimate the burden of MS. Although patients face many challenges during the treatment, they are relatively satisfied, but the lack of communication and participation, as well as the long-term safety, seems to be an important unmet need.

BRUNA ANTINORI VIGNOLA DA FONSECA - bruna.antinori@merckgroup.com

Poster Presentation - MS treatment

96869 - HIGH-DOSE ORAL CORTICOSTEROIDS IN MULTIPLE SCLEROSIS RELAPSES: A WORLDWIDE EXPERTS EXPERIENCE

Caio Disserol / Hospital das Clínicas da Faculdade de Medicina da USP; Lucas Bueno Feo / Hospital das Clínicas da Faculdade de Medicina da USP; Guilherme Diogo Silva / Hospital das Clínicas da Faculdade de Medicina da USP; Maria Fernanda Mendes / Hospital das Clínicas da Faculdade de Medicina da USP; Samira Luisa Apóstolos-Pereira / Hospital das Clínicas da Faculdade de Medicina da USP; Dagoberto Callegaro / Hospital das Clínicas da Faculdade de Medicina da USP;

Introduction: Multiple sclerosis (MS) relapses are classically treated with intravenous corticosteroids, mainly by ONTT results. High-dose oral corticosteroids is an option with similar efficacy and reduced costs since the publication of the COPOUSEP trial, but it is not commonly prescribed in Brazil. Objectives: To evaluate worldwide MS specialists experience on treatment of MS relapses with oral corticosteroids. Methods: We sent 23 email to many MS specialists worldwide with the following questions: 1) do you treat MS relapses with high-dose oral steroids? 2) Which are your personal exclusion criteria for this treatment? 3) Do you exclude them based on relapse severity? Results: We got 14 answers out of 23 questions from Brazil, USA, Canada, France, Italy, Spain, England, Germany, Switzerland and Russia. 11 responders use high-dose oral corticosteroids for MS relapses; 3 of these responders do not exclude any MS relapse from this treatment. 6 consider the following patients not eligible for this treatment: diabetics or psychiatric comorbidities that need hospitalization for monitoring (1), hospitalized patients (2), active gastritis or stomach ulcer (1) and severe relapses (2). Conclusion: Oral high-dose corticosteroids is an option for MS relapses for many MS specialists around the world.

CAIO CÉSAR DINIZ DISSEROL - caio.disserol@hc.fm.usp.br

Poster Presentation - MS treatment

96867 - HIGH-DOSE ORAL METHYLPREDNISOLONE IN MULTIPLE SCLEROSIS RELAPSES: A PHARMACOECONOMIC PERSPECTIVE

Caio Disserol / Hospital das Clínicas da Faculdade de Medicina da USP; Lucas Bueno Feo / Hospital das Clínicas da Faculdade de Medicina da USP; Guilherme Diogo Silva / Hospital das Clínicas da Faculdade de Medicina da USP; Maria Fernanda Mendes / Hospital das Clínicas da Faculdade de Medicina da USP; Samira Luisa Apóstolos-Pereira / Hospital das Clínicas da Faculdade de Medicina da USP; Dagoberto Callegaro / Hospital das Clínicas da Faculdade de Medicina da USP;

Introduction: Multiple sclerosis (MS) relapses are classically treated with intravenous corticosteroids, mainly by ONTT results. High-dose oral corticosteroids is an option with similar efficacy and reduced costs since the publication of the COPOUSEP trial. Objectives: To evaluate the minimization of costs on treatment of MS relapses with high-dose oral methylprednisolone. Methods: We analyzed the direct costs in our hospital related to a treatment with methylprednisolone 1.000mg for 5 days: hospitalization and costs in a infusion unit. Cost was compared with manipulation of oral methylprednisolone. Results: The cost for hospitalized patients is R$1.010,42 a day (5 days = R$5.052,10), for infusion unit is R$275,16 a day (5 days = R$1.375,80) and for manipulation of methylprednisolone capsules R$23,20 a day (5 days = R$116,00). Conclusion: Oral high-dose methylprednisolone is an option for MS relapses with the potential to drastically reduce costs and, possibly, reduce the occupation of hospital wards.

CAIO CÉSAR DINIZ DISSEROL - caio.disserol@hc.fm.usp.br

Poster Presentation - MS treatment

93490 - EVALUATION OF DIAGNOSIS AND TREATMENT PRACTICES IN PATIENTS WITH MULTIPLE SCLEROSIS BY BRAZILIAN NEUROLOGISTS EXPERTS IN DEMYELINATING DISORDERS.

Cássia Elisa Marin / Hospital São Lucas da PUCRS; Dagoberto Callegaro / Hospital das Clínicas da Universidade de São Paulo; Marco Aurélio Lana-Peixoto / Hospital das Clínicas de Minas Gerais - CIEM; Antônio Pereira Gomes Neto / Santa Casa de Belo Horizonte; Cláudia Cristina Ferreira Vasconcelos / Universidade Federal do Estado do Rio de Janeiro; José Artur Costa D' Almeida / Hospital Geral de Fortaleza; Marcus Vinícius Magno Gonçalves / Universidade da Região de Joinville; Maria Fernanda Mendes / Santa Casa de São Paulo; Mônica Koncke Fiuza Parolin / Clínica Gonçalves Dias, Curitiba; Osvaldo José Moreira do Nascimento / Universidade Federal Fluminense; Paulo Diniz da Gama / Pontifícia Universidade Católica de São Paulo; Rafael Paternò Castello Dias Carneiro / Santa Casa de São Paulo; Ronaldo Maciel Dias / Hospital de Base do Distrito Federal; Alfredo Damasceno / Universidade de Campinas; Jefferson Becker / Hospital São Lucas da PUCRS;

Introduction Recent changes in Multiple Sclerosis (MS) diagnostic criteria and new medications promoted a major impact on the way specialists manage the disease. This study aim is to evaluate diagnosis and treatment practices in patients with MS, performed by Brazilian MS specialists. Methods Potential participants were selected by a Steering Committee, which was assembled of MS experts. Links to the Survey questionnaire were distributed to all between March 2019 and January 2020. The on-line questionnaire was composed of 11 question sections with hypothetical scenarios, as radiologically isolated syndrome (RIS), clinically isolated syndrome (CIS), relapsing remitting MS (RRMS), secondary progressive MS (SPMS), and primary progressive MS (PPMS). Results Neurologists from 13 Brazilian states responded to Survey (n=94). In CIS scenario, respondents agreed to treat patients with high risk of MS diagnosis, results that was not founded in RIS case, which half of the respondents opted to not treat, even in high risk patients. In RRMS and high-risk CIS, choice of treatment was distributed among interferon beta, glatiramer acetate and teriflunomide, which were changed to dimethyl fumarate and fingolimod as RRMS severity increased. In PPMS case, almost all respondents agreed to start treatment with ocrelizumab or rituximab. In contrast, the majority of respondents opted to treat SPMS only if there is evidence of disease activity. Reasons for switching medication, in a 12-month period, were appearance of one new or enlarging brain T2 lesion; one gadolinium-enhancing lesion in brain imaging; and one clinical relapse. Almost all specialists perform lumbar puncture for diagnoses, and monitor disease through a 12-months interval neuroimaging. Furthermore, almost all specialists check levels of vitamin D and prescribe supplements for low levels. Conclusion This study revealed topics of agreement and non-agreement among MS specialists, which may be valuable in understanding the clinical decision-making process and in discuss new treatment guidelines.

CÁSSIA ELISA MARIN - cassiaemarin@gmail.com

Poster Presentation - MS treatment

96861 - EXTENDED INTERVAL DOSING OF NATALIZUMAB IN MULTIPLE SCLEROSIS: A SYSTEMATIC REVIEW AND META-ANALYSIS

Guilherme Diogo Silva / University of São Paulo; Guilherme Diogo Silva / University of São Paulo; Caio Cesar Diniz Disserol / University of São Paulo; Lucas Bueno Feo / University of São Paulo; Paulo Eduardo Lahoz Fernandez / Hospital Sirio Libanes; Davi Jorge Fontoura Solla / University of São Paulo; Samira Luisa Apóstolos-Pereira / University of São Paulo; Alexandre Coelho Marques / University of São Paulo; Maria Fernanda Mendes / University of São Paulo; Dagoberto Callegaro / University of São Paulo;

Introduction: Natalizumab is a highly effective treatment in reducing relapses and new brain lesions in multiple sclerosis. However, the associated risk of progressive multifocal leukoencephalopathy (PML) limits its use. Extended interval dosing (EID) may be a strategy to reduce PML risk without harnessing effectiveness. Objectives: To examine the evidence for using extended interval dosing in patients with multiple sclerosis as a strategy to reduce PML risk without an increase in clinical or radiological activity. Methods: We searched PubMed, Google Scholar, and ECTRIMS online library with the terms: "extended interval dosing" AND "natalizumab". Articles had to present comparative data of standard and extended interval dosing. Results: EID was associated with fewer cases of PML (OR 0.12 [95% 0.03 to 0.40]). Annualized relapse rates (mean difference = 0.03 [95% -0.13 to 0.19]) and the number of patients with new T2 lesion on brain MRI (RR 0.94 [95% 0.59 to 1.47]) were similar in both groups. Conclusion: Extended interval dosing natalizumab appears to be a reasonable strategy to reduce PML risk without compromise drug effectiveness.

GUILHERME DIOGO SILVA - dr.guilhermediogo@gmail.com

Poster Presentation - MS treatment

96883 - MULTIPLE SCLEROSIS RELAPSE FEATURES ASSOCIATED WITH EDSS PROGRESSION AND DRUG SURVIVAL OF INTERFERON AND GLATIRAMER

Guilherme Diogo Silva / University of São Paulo; Guilherme Diogo Silva / University of São Paulo; Bruno Batitucci Castrillo / University of São Paulo; Lucas Bueno Feo / University of São Paulo; Caio Cesar Diniz Disserol / University of São Paulo; Samira Luisa Apóstolos-Pereira / University of São Paulo; Dagoberto Callegaro / University of São Paulo;

Introduction: Multiple sclerosis (MS) relapse features are commonly used as prognostic parameters by neurologists to decide whether interferon or glatiramer would be a reasonable first choice disease modifying therapy (DMD) for a MS patient. Objectives: To better categorize the relationship between relapse features before the introduction of interferon or glatiramer and two outcomes: EDSS and efficacy-related drug survival. Methods: We retrospectively reviewed medical records from patients with relapsing-remitting multiple sclerosis. Patients' age and disease duration were recorded. Relapses were categorized according to the age of onset, frequency of relapses in the first two years of disease, and neurological syndromes (motor, brainstem, autonomic, sensory, or optic neuritis) before the introduction of interferon or glatiramer. We considered EDSS > 4 and interferon/glatiramer efficacy-related survival in the last follow up as endpoints. The analysis was performed in two steps: In the first, the correlation between individual relapse features and outcomes was studied; in the second, artificial intelligence (AI) models of random forests and neural networks were developed to combine relapse features in predicting models. Results: We included 102 patients with the mean follow up time of 11 years. The covariance of any relapse feature and EDSS or drug survival was mild to moderate at best. The presence of motor and autonomic relapses were associated with EDSS > 4 in the last follow up appointment ($p < 0.05$), inversely related to optic neuritis ($p < 0.05$), but could not predict drug survival. The accuracy AI models ranged from 45 to 55% in predicting EDSS and drug survival. Conclusion: Although neurologists frequently use relapse features to decide if interferon or glatiramer is adequate as the first disease-modifying drug, our findings suggest relapse features may not be a reliable parameter.

GUILHERME DIOGO SILVA - dr.guilhermediogo@gmail.com

Poster Presentation - MS treatment

96862 - PARADOXICAL WORSENING OF DEMYELINATING DISEASES WITH THE USE OF DISEASE MODIFYING DRUGS: A CASE REPORT AND DISCUSSION

Guilherme Diogo Silva / University of São Paulo; Guilherme Diogo Silva / University of São Paulo; Marcela Reuter Carréra Torres / University of São Paulo; Lucas Bueno Feo / University of São Paulo; Caio Cesar Diniz Disserol / University of São Paulo; Paula Cunha Pinho / University of São Paulo; Samira Luisa Apóstolos-Pereira / University of São Paulo; Dagoberto Callegaro / University of São Paulo;

Case Presentation: 34 years old afro-descendent male diagnosed with multiple sclerosis (MS) in 2014 presented to our care. He reported four relapses in the last 6 years: left-side hemiparesis and hemihypoesthesia, bilateral visual loss, left-sided leg weakness, and right-sided hemiparesis with dysarthria. Interferon was used as disease modifying drug (DMDs) during this period. At evaluation, he had EDSS of 6 due to significant global cerebellar ataxia and right-side hemiparesis. Considering aggressive multiple sclerosis, we started natalizumab as DMD in january of 2020. At three-month follow up after natalizumab, neuroimaging was carefully reviewed and considered increasing lesional load beside atypical for MS: tumefactive demyelinating lesion and bilateral optic atrophy with chiasma involvement. Considering the differential diagnosis with neuromyelitis optica spectrum disease and/or MOG antibody disease, rituximab was introduced four weeks after stopping natalizumab. Two weeks after the first rituximab dose, patient developed right side weakness and aphasia, leading to an emergency room evaluation. A new tumefactive lesion was found in addition to a huge growth of previous one. Discussion: DMDs may induce paradoxical worsening in demyelinating diseases. First, DMDs used in multiple sclerosis are ineffective in neuromyelitis optica (NMOSD) and MOG antibody disease (MOGAD) and can increase clinical activity. This may explain why our patient kept a high disease activity. Second, natalizumab may present a rebound phenomena 4-8 weeks after stopping these drugs. Hence, drug transition timing is a concern. Lastly, rituximab is associated with paradoxical flares in antibody-mediated diseases after the first dose because of increase in BAFF (B cell activating factor). Final Comments: Three practical aspects to reduce paradoxical worsening of demyelinating diseases with DMDs are: (1) correct diagnosis between multiple sclerosis and atypical demyelination (MOGAD and NMOSD); (2) timed transition between DMDs before the peak of rebound; (3) high-dose steroid before rituximab first infusion in antibody-mediated diseases.

GUILHERME DIOGO SILVA - dr.guilhermediogo@gmail.com

Poster Presentation - MS treatment

95232 - A DENSITY FUNCTIONAL THEORY STUDY OF STRUCTURAL AND ELECTRONIC PROPERTIES OF NATALIZUMAB

João Marcos Brandet / Centro Universitário Filadélfia - UniFil;

Introduction: Natalizumab is a medication used to treat multiple sclerosis. This medication is a monoclonal antibody which targets a protein called α4β1 integrin on white blood cells involved in inflammation. Objectives: To develop a density functional theory study of structural and electronic properties of natalizumab. Methods: Computational design at the Density Functional Theory level, docking studies, computed IR-active modes, HOMO-LUMO gaps, UV-vis absorbance spectroscopy, periodic density functional theory (DFT) framework, Kohn Sham equations, Powel algorithm method and molecular dynamics methods were applied in the computational analysis of natalizumab. Structural properties have been determined using both density-based and wave-function-based electronic structure methods in order to assess the ability of ab initio force fields to retain the properties described by experimental structures measured with crystallography or nuclear magnetic resonance. Birch Murnaghan third-order equation of state (EOS) and linear combination of Bloch functions were studied and applied in the computational analysis. Results: The presence of inter-chain disulfide bonds in the medication structure is important for the geometric stabilization of the drug. The spatial accessibility/physical proximity of the partner cysteine residues forming the disulfide bond is very important for the structural integrity of the drug. The pKa of the involved thiol groups, the pH of the local environment and low density electronic and connection points with the possibility of resonance are factors that collaborate in the binding to the α4-subunit of α4β1 and α4β7 integrins. Conclusion: Understanding the structural and electronic properties of natalizumab should help developing new therapeutic tools and new methodologies to treat this disease.

JOÃO MARCOS BRANDET - jmbrandet@edu.unifil.br

Poster Presentation - MS treatment

95249 - A THEORETICAL INVESTIGATION ABOUT STRUCTURAL AND OPTICAL PROPERTIES OF FINGOLIMOD

João Marcos Brandet / Centro Universitário Filadélfia - UniFil;

Introduction: Fingolimod, an immunomodulating drug, is used for treating multiple sclerosis (MS). Studies show that the use of this medication reduces the rate of relapses in relapsing-remitting multiple sclerosis. Objectives: To develop and study a theoretical investigation about structural and optical properties of fingolimod. Methods: The periodic density functional theory (DFT) framework, Quantum Theory of Atoms in Molecules (QTAIM), Kohn□Sham equations, Perdew□Burke□Ernzerhof (PBE) functional, conjugate gradient, HOMO-LUMO gaps and molecular dynamics methods were applied in the computational analysis. Structural properties have been determined using both density-based and wave-function-based electronic structure methods in order to assess the ability of ab initio □force fields□ to retain the properties described by experimental structures measured with crystallography or nuclear magnetic resonance. Birch□Murnaghan third-order equation of state (EOS), Monkhorst□Pack special k-point grid and linear combination of Bloch functions were studied and applied in the computational analysis. Results: Fingolimod, a sphingosine 1-phosphate receptor modulator, has some electronic densities coordinated by N and O atoms. The angular arrangements of carbon atoms, the presence of OH and the resonance structure can direct certain chemical bonds and facilitate interaction with the drug target. Fingolimod is phosphorylated intracellularly to fingolimod phosphate, which binds to the sphingosine-1-phosphate receptor. The amino group of fingolimod facilitates interaction with cell levels and levels of electronic density. Conclusion: Understanding the structural and optical properties of fingolimod should help developing new therapeutic tools to treat this disease and other autoimmune diseases.

JOÃO MARCOS BRANDET - jmbrandet@edu.unifil.br

Poster Presentation - MS treatment

95152 - COMPUTATIONAL CHEMISTRY IN THE STUDY OF THE BIOCHEMICAL PROPERTIES OF ALEMTUZUMAB

João Marcos Brandet / Centro Universitário Filadélfia - UniFil;

Introduction: Alemtuzumab is a medication used to treat multiple sclerosis. Studies demonstrate that annual cycles of alemtuzumab probably reduces the proportion of people that experience relapse and may reduce the proportion of people who experience disability worsening and new T2 lesions on MRI. Objectives: To study the fundamental physicochemical properties and molecular functions of alemtuzumab. Methods: Computational design at the Density Functional Theory level, docking studies, computed IR-active modes, HOMO-LUMO gaps, UV-vis absorbance spectroscopy and molecular dynamics methods were applied in the computational analysis of alemtuzumab. Structural properties of alemtuzumab have been determined using both density-based and wave-function-based electronic structure methods in order to assess the ability of ab initio □force fields□ to retain the properties described by experimental structures measured with crystallography or nuclear magnetic resonance. Results: The chemical bonds of the alemtuzumab show to have well-coordinated sigma and pi bonds with pharmacological action directed against the 21□28 kDa cell surface glycoprotein CD52. The chemical structure of the alemtuzumab indicates binding elements for B and T lymphocytes suggesting a possible depletion of these cells. The presence of intrachain disulfide bridges and asparagine residue indicates its passivity to glycosylation. Conclusion: Understanding the physicochemical properties and molecular functions of alemtuzumab should help developing new therapeutic tools to treat this disease and other autoimmune diseases.

JOÃO MARCOS BRANDET - jmbrandet@edu.unifil.br

Poster Presentation - MS treatment

95220 - INVESTIGATING THE INTERFERON BETA-1A AND INTERFERON BETA-1B WITH THEORETICAL NUCLEAR PHYSICS METHODS

João Marcos Brandet / Centro Universitário Filadélfia - UniFil;

Introduction: Interferon beta-1a and Interferon beta-1b are cytokines in the interferon family used to treat multiple sclerosis (MS). Studies show that interferons may slow the progress of the disease if started early and continued for the duration of the disease. Objectives: To identify, investigate and analyze the interferon beta-1a and interferon beta-1b with theoretical nuclear physics methods. Methods: The periodic Density Functional Theory framework, Kohn-Sham equations, PBE wavefunctions, HOMO-LUMO gaps and molecular dynamics methods were applied in the computational analysis of interferon beta-1a and interferon beta-1b. Structural properties have been determined using both density-based and wave-function-based electronic structure methods in order to assess the ability of ab initio □force fields□ to retain the properties described by experimental structures measured with crystallography or nuclear magnetic resonance. Results: Angular arrangements involving carbon atoms combined with coordinated oxygen bonds and low electronic density locations of the interferon beta-1a suggest that interactions with internal structure of T lymphocytes are very effective to reduce production of Th17 cells. The S and O atoms of interferon beta-1b can exhibit types of cluster coordination that suggest a important role to active the gamma subunit of nerve growth factor.

JOÃO MARCOS BRANDET - jmbrandet@edu.unifil.br

Poster Presentation - MS treatment

95228 - INVESTIGATING THE MORPHOLOGICAL, STRUCTURAL AND OPTICAL PROPERTIES OF GLATIRAMER ACETATE

João Marcos Brandet / Centro Universitário Filadélfia - UniFil;

Introduction: Glatiramer acetate, an immunomodulator medication, is used to treat multiple sclerosis. Studies suggest that it may reduce progression of disability. Objectives: To identify, investigate and analyze the morphological, structural and optical properties of glatiramer acetate with computational methods. Methods: The periodic density functional theory (DFT) framework, Kohn□Sham equations, Perdew□Burke□Ernzerhof (PBE) functional, conjugate gradient, HOMO-LUMO gaps and molecular dynamics methods were applied in the computational analysis. Structural properties have been determined using both density-based and wave-function-based electronic structure methods in order to assess the ability of ab initio □force fields□ to retain the properties described by experimental structures measured with crystallography or nuclear magnetic resonance. Vibrational-frequency calculations were performed at a point in the harmonic approximation. The geometry of the chemical structure was also analyzed using a Monkhorst□Pack special k-point grid. Results: The geometric characteristic of alpha-amino group, alpha-carboxylic acid group and a side chain lysyl in the drug structure favors the coordination of reactions of dehydration. The angular arrangements of nitrogen in the structure allow for easier displacement of certain electronic characteristics. This suggests that the pharmacological properties have a moderate-strong interaction with cells (population of T cells) that are more sensitive to structures with electronic and resonance points. Conclusion: Understanding the morphological, structural and optical properties of glatiramer acetate should help developing new studies and therapeutic tools to treat this disease.

JOÃO MARCOS BRANDET - jmbrandet@edu.unifil.br

Poster Presentation - MS treatment

96254 - NO DIFFERENCE BETWEEN THE DIVERSE DISEASE MODIFYING DRUGS ON OVERWEIGHT AND BODY FAT PERCENTAGE INDICATORS

Fernanda Nunes Maia / UECE; Maria Luisa Pereira de Melo / UECE - HOSPITAL GERAL DE FORTALEZA; Carine Costa dos Santos / UECE; Bruna Yhang da Costa Silva / UECE; Levy Freire de Aguiar Martins / UECE; Milena Sales Pitombeira / HOSPITAL GERAL DE FORTALEZA; Gabriela Joca Martins / HOSPITAL GERAL DE FORTALEZA; Keyla Rejane Frutuoso de Morais / HOSPITAL GERAL DE FORTALEZA; Patricia Chagas Rocha D' Almeida / HOSPITAL GERAL DE FORTALEZA; José Artur Costa D' Almeida / HOSPITAL GERAL DE FORTALEZA;

Introduction: Excess weight worsens during the evolution of individuals with Multiple Sclerosis (MS). The treatment of MS patients with immunomodulatory and immunosuppressive agents have modified the natural course of the disease, however, it is not known whether these drugs have the potential to interact with food intake and/or metabolism, and since, would interfere in weight gain or loss. Objetives: To check if there is an association between the diverse disease-modifying drugs on the nutritional status of MS patients. Methods: A Cross-sectional study, carried out at a MS center with 121 patients in the Relapsing-Remitting clinical form. The drugs used were verified through a questionnaire. Weight and height were used to calculate the body mass index (BMI). The percentage of body fat (BF%) was measured by Bioimpedance (BIA) and Ultrasound (US). The Kruskal-Wallis test was applied to compare BMI and body fat percentages by BIA and US between groups. Significance considered was $p<0.05$. Results: The drugs used by each group were Interferon Beta1A (55; 45.5%), Glatiramer Acetate (29; 24%), Interferon Beta1B (13; 10.7%), Natalizumab (9; 7.4%), Fingolimod (7; 5.8%), and 8 (6.6%) patients were using high dose vitamine D. According to BMI, 51 (42.1%) of all patients were overweight. Higher values were observed in the assessment of body composition: 60 (49.6) had a high BF% according to BIA and 56 (46.7%) according to US. Kruskal-Wallis test showed no differences in BMI [X^2 (5) = 4.559; p> 0.05], BF% by BIA [X^2 (5) = 5.302; p> 0.05] or BF% by US [X^2 (5) = 5.118; p> 0.05] between groups with each different drug. Conclusion: There is no difference between the effect of the diverse disease modifying drugs on overweight and body fat percentage. There is a high prevalence of overweight and excessive body fat in the studied groups.

JOSE ARTUR COSTA D' ALMEIDA - arturdalmeida@gmail.com

Poster Presentation - MS treatment

93440 - THE EFFECTS OF PILATES IN THE QUALITY OF LIFE OF PATIENTS WITH RECURRENT REMITTING RELAPSING MULTIPLE SCLEROSIS

JULIANA APARECIDA RHEIN JULIANA RHEIN / Universidade de São Paulo; Bruna Helena Sciarini / Associação Brasileira de Esclerose Múltipla; Alice Estevo Dias / Associação Brasileira de Esclerose Múltipla; Maurício Ossamu Bando / Associação Brasileira de Esclerose Múltipla; Edson Nakau / Faculdade de Medicina do ABC; Irana Castro / Faculdade de Medicina do ABC; Rita Labronici / Faculdade de Medicina do ABC;

Background: Multiple sclerosis (MS) is a chronic inflammatory demyelinating autoimmune disease of the central nervous system that produces a variety of potentially disabling symptoms that causes a high degree of impairment in the daily routine of MS patients and recognition of this problem is crucial for understanding the importance of further studying your assessment. Objectives: To analyze the quality of life of patients with relapsing remitting multiple sclerosis before and after Pilates treatment. Methods: We retrospectively analyzed 25 medical records of patients with MS who underwent physiotherapy at the Brazilian Multiple Sclerosis Association (ABEM), from 2018 to 2019, using MSQOL 54 for quality of life assesment after intervention. The treatment last 4 months and the session last 1 hour, once a week. Results: The MSQOL-54 scale is subdivided into two parts, Physical Health and Mental Health. In the post-intervention period, Physical Health reached p = 0.009 and Mental Health p = 0.028, which showed one in the patients' quality of life. Conclusion: Pilates provides effective for improving the quality of life of multiple sclerosis patients.

JULIANA APARECIDA RHEIN TELLES - juliana.rhein@usp.br

Poster Presentation - MS treatment

93441 - THE INFLUENCE OF PHYSICAL THERAPY AND PILATES ON THE BALANCE OF PATIENTS WITH RECURRENT REMITTING SUBTYPE MULTIPLE SCLEROSIS

Juliana Aparecida Rhein Telles / Universidade de São Paulo; Bruna Helena Sciarini / Associação Brasileira de Esclerose Múltipla; Alice Estevo Dias / Associação Brasileira de Esclerose Múltipla; Mauricio Ossamu Bando / Associação Brasileira de Esclerose Múltipla; Rita Labronici / Faculdade de Medicina do ABC; Edson Nakau / Faculdade de Medicina do ABC; Irana Castro / Faculdade de Medicina do ABC;

Background: Multiple sclerosis is a chronic, autoimmune disease that affects the central nervous system, causing destruction of myelin, a fundamental protein in nerve impulse transmission. The main areas of the CNS affected by MS are the periventricular areas of the brain, optic formations, cerebellum, brainstem and spinal cord Objective: To analyze data to contribute to prove the benefits of conventional physical therapy and Pilates practice in these patients, aiming to compare the change in balance. Methods: We retrospectively analyzed 25 medical records of MS patients undergoing physiotherapy at the Brazilian Multiple Sclerosis Association (ABEM), from 2018 to 2019, using the Berg Scale for pre and post intervention balance assessment. Evaluations were made before the start of treatment and 4 months later, after 16 sessions, once a week, for 1 hour. The efficiency of using the Pilates method (Group A: muscle strengthening of the lower limbs, upper limbs and trunk, balance training, central stabilization and posture) was also compared with the participation of 12 patients out of 25 evaluated; compared with conventional physiotherapy (Group B: muscle strengthening of the lower limbs, upper limbs and trunk, global stretching, static and dynamic balance training, sensory and gait training) with participation of the other 13 patients out of the 25 evaluated. Results: In the balance evaluation, verified by the Berg scale, both methods showed improvement, conventional, $p = 0.015$, Pilates method, $p = 0.004$, again the methods showed improvement, being the Pilates method with better efficiency. Conclusion: Both methods presented good results, and the Pilates method presented better results than conventional physiotherapy.

JULIANA APARECIDA RHEIN TELLES - juliana.rhein@usp.br

Poster Presentation - MS treatment

96878 - CIEM MS RESEARCH CENTER PRACTICE GUIDELINE FOR PREGNANCY IN MULTIPLE SCLEROSIS

Josemary Cavalcante / CIEM MS Research Center, Federal University of Minas Gerais Medical School, Belo Horizonte, Brazil ; Ana Paula Costa / CIEM MS Research Center, Federal University of Minas Gerais Medical School, Belo Horizonte, Brazil; Juliana Santiago Amaral / CIEM MS Research Center, Federal University of Minas Gerais Medical School, Belo Horizonte, Brazil; Paulo P. Christo / CIEM MS Research Center, Federal University of Minas Gerais Medical School, Belo Horizonte, Brazil; Natália C. Talim / CIEM MS Research Center, Federal University of Minas Gerais Medical School, Belo Horizonte, Brazil; Marco A. Lana-Peixoto / CIEM MS Research Center, Federal University of Minas Gerais Medical School, Belo Horizonte, Brazil;

Introduction:Disease modifying drugs (DMD) prevents disease relapses and progression in multiple sclerosis (MS) but may be associated with adverse pregnancy outcomes and fetotoxicity. Objective:To develop strategies that assist physicians in decision making regarding (1) recommendations for MS patients at childbearing age concerning family planning; (2) MS management during pregnancy and breastfeeding. Methods: We searched Pubmed database for the last 10 years using multiple sclerosis as the search term, and pregnancy and breastfeeding as additional terms. Recommendation strength was designated as should and may according to the American Academy of Neurology Level of Recommendation. Results:The practice guideline suggests that: (1) physicians should recommend family planning and effective contraception for all MS women at childbearing age; (2) women with active disease should maintain effective contraception and use the most appropriate DMD for a minimal period of 2 years; (3) glatiramer acetate and interferon beta are the safest DMD for women who are not on reliable contraception; (4) women whose disease is well controlled and wish to get pregnant should maintain effective contraception until DMD is suspended; teriflunomide should be stopped and undergo a rapid elimination procedure before stopping contraception; (5) severe rebound attacks may be treated by natalizumab; (6) women in use of DMD during the first trimester of pregnancy should stop DMD and be counselled about risk of teratogenicity; (7) women should be positively counselled about exclusive breastfeeding for six months without DMD; (8) IV methylprednisolone may be used to treat severe attacks during pregnancy and breastfeeding; (9) neonates be monitored for liver dysfunction, pancytopenia, and autoimmune thyroiditis in case of use of natalizumab, ocrelizumab and alemtuzumab respectively. Conclusion: This practice guideline addresses specific situations concerning family planning, pregnancy and breastfeeding in MS. It may help neurologists to provide optimal healthcare to their patients at childbearing age.

NATÁLIA CIRINO TALIM MENEZES - talim.fono@gmail.com

Poster Presentation - MS treatment

96646 - EVALUATION OF COVID-19 INFECTION IN PATIENTS WITH MULTIPLE SCLEROSIS RECEIVING DIFFERENT DISEASE-MODIFYING DRUGS (DMD)

Samyra Melo Vital / Santa Casa de Misericórdia de São Paulo; Luiz Fellipe Aliberti / Santa Casa de Misericórdia de São Paulo; Natalia Trombini Mendes / Santa Casa de Misericórdia de São Paulo; Rônney Pinto Lopes / Santa Casa de Misericórdia de São Paulo; Maria Fernanda Mendes / Santa Casa de Misericórdia de São Paulo;

Introduction: In the face of current COVID-19 pandemic, neurologists worldwide have been discussing the impacts of the new coronavirus infection on patients with autoimmune diseases using disease-modifying drugs (DMD). Objectives: To evaluate clinical outcomes in patients with multiple sclerosis (MS) using differents DMD who were affected by COVID-19. Methods: Outcare patients with diagnosis of MS according McDonald criteria were assessed on having symptoms related to SARS-CoV-2 infection. Those diagnosed with COVID-19 (made by typical clinical features with or without a positive RT-PCR test) were further evaluated on severity of COVID-19 symptoms, new onset or worsening of previous neurological symptoms and association with other comorbidities. Results: A total of 94 MS patients were assessed, 10 of those were diagnosed with COVID-19 and, among them, seven were being treated with natalizumab, one with rituximab, one with dimethyl fumarate and one was temporarily with no DMD. Three patients had the diagnosis confirmed by RT-PCR and seven had typical symptoms of COVID-19, among these, two had a partner with a confirmed diagnosis. The severity of the infection was considered mild in nine patients and there were no new neurological symptoms or worsening of previous symptoms. One patient receiving natalizumab had a more severe infection, requiring a long hospitalization in intensive care unit and invasive ventilation. After discharge patient presented worsen mobility with no new radiological activity in brain magnetic resonance imaging, attributing it mostly to critical illness polyneuropathy. It was also observed that this patient had several comorbidities, such as hypertension, dyslipidemia, obesity and a history of previous bariatric surgery, unlike the other six patients with mild disease. Conclusion: The severity of COVID-19 does not seem to be greater in patients with MS treated with different types of DMDs and, in these patients, other comorbidities should be considered for worse progression of SARS-CoV-2 infection.

SAMYRA MELO VITAL - samyravital@hotmail.com

Poster Presentation - Multidisciplinary care

96629 - AVALIAÇÃO DA PERCEPÇÃO DO PACIENTE SUBMETIDO À PULSOTERAPIA COM METILPREDINISOLONA PARA TRATAMENTO DO SURTO NA ESCLEROSE MÚLTIPLA

Ivone Regina Fernandes / Santa Casa de São Paulo; Ana Carolina Santana de Sena / Santa Casa de São Paulo; Charles Peter Tilbery / Santa Casa de São Paulo; Ivone Regina Fernandes / Santa Casa de São Paulo;

Introdução: A pulsoterapia com metilprednisolona é o tratamento de escolha no surto de esclerose múltipla (EM) devido a sua ação anti-inflamatória, imunossupressora e eficácia. A orientação do enfermeiro sobre as fases da terapia e os efeitos causados pelo medicamento são importantes ferramentas na adesão ao tratamento. Objetivos: Avaliar a percepção acerca da pulsoterapia com metilprednisolona e estimar e comparar o custo do tratamento nos regimes hospital-dia e internação. Método. Participaram do estudo 20 indivíduos com EM remitente-recorrente em surto para o qual foi proposto a modalidade de internação ou hospital-dia. Os dados foram coletados por meio de um questionário aplicado antes e após a pulsoterapia com questões abertas e fechadas sobre a percepção deste acerca da terapia e seus efeitos. Resultados. Dois pacientes (20%) trataram o surto pela primeira vez com pulsoterapia, 95% (n=19) realizaram terapia por 5 dias; 20% (n=4) foram internados por indicação médica, 80% (n=16) o fizeram hospital-dia, dos quais 25% (n=4) por escolha do médico e 55% (n=11) solicitaram o atendimento nesta modalidade. Os sintomas experimentados pelos pacientes foram maiores do que os que foram informados a eles antes do início, 50% deles não haviam recebido informação sobre o procedimento. Em relação ao custo do tratamento, regimes distintos mostraram diferenças entre o valor estimado do repasse do SUS e o dispêndio do hospital com o mesmo procedimento; na modalidade hospital-dia foram tratados 80% dos pacientes (n=16) contra 20% (n=4) em internação. Conclusão. A informação atualizada fornecida pelo enfermeiro sobre a pulsoterapia é o elemento básico para promover a qualidade de vida para o paciente e o desenvolvimento de todas as outras metas de melhora na autogestão do cuidado. Além disso, a utilização da modalidade hospital-dia para tratamento do surto na EM foi capaz de gerar economia para o serviço de saúde.

ANA CAROLINA SANTANA DE SENA - enf.ac.sena@gmail.com

Poster Presentation - Multidisciplinary care

93467 - HIPERGLICEMIA INDUZIDA POR PULSOTERAPIA COM CORTICOSTEROIDES: PROTOCOLO PARA CONTROLE DE GLICEMIA CAPILAR

Ivone Regina Fernandes / Santa Casa de São Paulo; Ana Carolina Santana de Sena / Santa Casa de São Paulo; Adakson M. Costa / Santa Casa de São Paulo; Maria Angela Gonçalves Paschoal / Santa Casa de São Paulo;

Introdução: A pulsoterapia é a terapia preferencial para tratar os surtos da Esclerose Múltipla. É indicada doses de corticosteroide (500mg a 1g), numa frequência de 3 a 5 dias, podendo ser em regime de internação ou hospital dia em centro de infusão. O tratamento reduz a inflamação da fase de exacerbação da EM e busca a estabilização da crise. Apesar de seus efeitos colaterais, os glicocorticoides são potentes anti-inflamatórios no tratamento das patologias autoimunes. Como parte de seus efeitos, bloqueiam a entrada de glicose para os tecidos, aumentam a proteólise, diminuindo sua síntese na musculatura, pele, ossos, tecido conjuntivo, gordura e tecidos linfoides. Antes da pulsoterapia é importante excluir a possibilidade de infecção ativa e sempre administrar o antiparasitário para controlar possíveis infestações. Aferir pressão arterial, peso corporal e glicemia capilar são importantes durante a infusão. Como efeito adverso na terapêutica pode ocorrer hiperglicemia o que requer controle diário pré e pós-infusão. A glicemia capilar é um exame sanguíneo que oferece resultado imediato acerca da concentração de glicose nos vasos capilares da polpa digital. Objetivo: Descrever um protocolo para rodízio de locais de punção no exame de glicemia capilar realizado durante a pulsoterapia. Método: Foi estabelecido um padrão de rodízio nas punções da polpa digital. O cliente é orientado a fazer higiene das mãos e secar bem. O profissional de enfermagem punciona o local selecionado nas laterais direita ou esquerda da falange distal do dedo elegido para o teste alternando os sítios de punção, faz o registro da data, hora, local e valor da glicemia. Resultados: A introdução de um protocolo para rodízio do local de punção baseado num código simples favorece a comunicação entre profissionais de Enfermagem e promove a segurança do paciente. O protocolo permitiu a participação e cooperação do cliente estabelecendo assim o auto cuidado.

ANA CAROLINA SANTANA DE SENA - enf.ac.sena@gmail.com

Poster Presentation - Multidisciplinary care

93466 - SALA DE ESPERA: UMA EXPERIÊNCIA EXITOSA NO CENTRO DE ATENDIMENTO E TRATAMENTO DA ESCLEROSE MÚLTIPLA (CATEM) - BRASIL

Ivone Regina Fernandes / Santa Casa de São Paulo; Maria Luiza de Andrade Santos / Santa Casa de São Paulo; Rodrigo Noronha da Fonseca / Santa Casa de São Paulo; Ana Carolina Santana de Sena / Santa Casa de São Paulo; Vanessa Donato do Vale / Santa Casa de São Paulo; Natali Maia Marques / Santa Casa de São Paulo; Elisa Melo / Santa Casa de São Paulo; Charles Peter Tilbery / Santa Casa de São Paulo;

Introdução: A permanência de pacientes aguardando a chamada para a consulta médica é uma realidade no serviço publico brasileiro. A Política Nacional de Humanização do Ministério da Saúde brasileiro preconiza uma assistência acolhedora, fortalecedora e integradora com adoção de medidas assistenciais e comunicação entre equipes multiprofissionais. Uma das práticas utilizadas pela equipe de saúde para o compartilhamento de vivencias, sentimentos e saberes entre pacientes e profissionais é o Grupo de Sala de Espera. O Centro de Atendimento e Tratamento da Esclerose Múltipla (CATEM), atende através do Sistema Único de Saúde, toda sexta-feira, no período matutino e tem cerca de 500 clientes cadastrados, fazendo uso de diversas terapias para tratamento da Esclerose Múltipla. Instituído em 2013, o projeto Sala de Espera composto por pacientes, familiares, cuidadores, assistente social, enfermeira, fisioterapeuta, psicólogo, neuropsicóloga, entre outros, proporciona um espaço acolhedor para minimizar angustias e medos, orientar sobre direitos, informar sobre a doença e suas repercussões, tipos de tratamento, importância da adesão e adoção de rotina de exercícios, normas e rotinas do hospital, oferecendo aos pacientes, familiares e cuidadores um espaço de potencia e afeto, para desenvolverem uma postura mais ativa e participativa no seu tratamento. Objetivo: Descrever a experiência do Grupo Sala de Espera como parte da assistência humanizada ao paciente com esclerose múltipla, seus familiares e cuidadores Método: O acolhimento, integração e interação são as palavras chaves, os pacientes mais antigos conversam e compartilham suas experiências com aqueles que estão em inicio de tratamento, minimizando angustias e duvidas. Os profissionais médico, psicólogo, assistente social, enfermeira e fisioterapeuta, participam de todas as reuniões, além de outros profissionais convidados. No decorrer das reuniões, as duvidas apresentadas pelos participantes são esclarecidas e fomentam temas para discussões posteriores. Resultados: Esse projeto é desenvolvido há seis anos e tem-se mostrado exitoso com a participação média 500 pacientes/ano.

ANA CAROLINA SANTANA DE SENA - enf.ac.sena@gmail.com

Poster Presentation - Multidisciplinary care

95505 - CASE REPORT: PACIENTE COM ESCLEROSE MÚLTIPLA E COVID-19.

Ana Maria Ana Maria / Ana Maria Canzonieri; Bruno Almeida / Ana Maria Canzonieri; Daniele Batista de Sousa / Ana Maria Canzonieri;

Female, 47 years old, with Sjogren and Rheumatoid Arthritis, diagnosed with Multiple Sclerosis (MS) in February and contracted COVID-19 in May 2020. Objective: To demonstrate patient' s therapeutic itinerary in relation to MS and COVID-19. Methods: Description of the therapeutic itinerary, through a recorded SKYPE interview. Results: In March / 19, I thought it was labyrinthitis, but it was MS emerging. I have Sjogren and glaucoma. I went to the ophthalmologist, the neuro-ophthalmologist and they referred me to the neurologist with suspected neuromyelitis. After the aquaporin test they discarded it and in February / 20, they diagnosed MS. Pandemic came and consultations were canceled. My husband had COVID, when he got better I was bad. I spoke to the neurologist on the phone. I went to the health clinic, got tested and started antibiotic treatment. I was isolated in the room, wore a mask and took precautions indoors. I lost my taste and smell, I had a lot of sore throat and body. I told the doctor that I would not go to the hospital because I was afraid. Lucky I didn' t get the immunosuppressive medication. I am attentive, I write everything down to pass it on to the neurologist, everything is new. Due to the pandemic there are tests that were not ready and the prescription from the high cost pharmacy stopped. The public hospital is very crowded, there is a long queue, they try to do their best, but it is still flawed, a lot of bureaucracy. Conclusion: A patient with a closed diagnosis of MS after one year, when visiting several doctors. Then, he contracted COVID-19, which caused him fear, as he had not yet elaborated the diagnosis of MS and the pandemic appeared, preventing the continuity of treatment, representing a novelty in acting and feeling.

ANA MARIA CANZONIERI - amcrrr@gmail.com

Poster Presentation - Multidisciplinary care

95504 - UNDERSTANDING THE EXPERIENCES OF PATIENTS WITH MULTIPLE SCLEROSIS IN COPING WITH COVID-19 PANDEMIC: DISCOURSE ANALYSIS

Ana Maria Ana Maria / Ana Maria Canzonieri; Bruno Almeida / Ana Maria Canzonieri; Daniele Batista de Sousa / Ana Maria Canzonieri; Julino A. Rodrigues Soares Neto / Ana Maria Canzonieri;

Multiple sclerosis (MS) is an autoimmune neurological disease that can cause limitations and deficiencies. The health care of these patients must be comprehensive and continuous, which implies the need for plans for emergency situations. Objectives: To demonstrate the experiences of patients with MS in coping with the COVID-19 pandemic. Method: Qualitative research, phenomenological hermeneutics, discourse analysis, recorded SKYPE interview, after signing the informed consent form, with 4 patients who talk about the "How" their daily lives in relation to the pandemic, based on 7 questions from the interviewer. After the literal transcription of the patient‘ s speech, the idiosyncratic analysis brings the literal answer to the question, then the nomothetic analysis synthesizes and brings the writing in the cultured norm of the idiosyncratic analysis and finally the proposition. Results: The proposition is: Living with MS takes time, it is a challenge, due to the acceptance of the diagnosis and the disease to bring isolation. The pandemic brought the realization of isolation and a change towards normality and independence It causes fear because it is a disease that is in the risk group and the options in relation to medication are: do not seek,, withdraw a larger amount or go to the high cost pharmacy taking care. It brought the appreciation of the family, small things, love of neighbor and the importance of a hug. It generates feelings of dependence on the family and frustration. The Laboratory and the patients´s Association were closed, the hospital not attending to the routines, make rehabilitation impossible and bring doubts to those to turn to in case of an outbreak. Using telemedicine, doing physiotherapy and psychotherapy online, helps not to risk leaving home. Conclusion: The picture of the patient‘ s experiences in the face of the pandemic shows fear and insecurity experienced in this context.

ANA MARIA CANZONIERI - amcrrr@gmail.com

Poster Presentation - Multidisciplinary care

93438 - COGNITIVE PERFORMANCE AND DEMENTIA IN BRAZILIAN PATIENTS WITH MULTIPLE SCLEROSIS

Andreia Costa Rabelo / UFG/CRIEM/Faculdade Estacio de Sá de Goiás/FacUnicamps; Denise Sisterolli Diniz / UFG/ CRIEM; Leonardo Ferreira Caixeta / UFG;

Abstract: Multiple Sclerosis (MS) is a demyelinating, inflammatory, autoimmune and degenerative disease of the Central Nervous System. Initially, was believed that there were no cognitive changes in MS because it was a white matter disease, but the clinic demonstrated the opposite and the influence on patients' quality of life. Studies have intensified in the last two decades. Objective: Cognitive assessment of MS patients to verify if there is a difference between gender and cognitive impairment in MS and the influence of education, age and time of diagnosis on the cognitive profile. Methodology: Our sample included 84 patients treated at a specialized university service diagnosed according to the criteria of McDonald-2010 and Polman et al.-2011. The Brief Neuropsychological Battery - BRB-N was used. Results: It was found that the averages of participants with a higher education level were significantly higher than the averages of participants with a fundamental level, demonstrating the importance of cognitive reserve in MS. The instrument that showed the greatest sensitivity was the SDMT followed by the WLG. SDMT showed statistically significant correlations with all other subtests. More than 60% of the sample showed impairments in three or four cognitive domains. Men performed worse only in verbal fluency. As for the age groups, there were no statistically significant differences between test performance. There was a peak of better performance in the group with 4 to 6 years of diagnosis, explained by the decrease in the initial inflammatory process, after which patients benefit from neuronal plasticity. From 7 to 10 years old, it was the group that presented the greatest losses, being impacted by the injury loading. We found 14 patients with dementia phenotype. Conclusion: Our findings were in agreement with the literature. Although supposedly cases of dementia are rare in MS, further studies are needed

ANDREIA COSTA RABELO - acrm_25@hotmail.com

Poster Presentation - Multidisciplinary care

95451 - ORAL FINDINGS IN PATIENTS WITH MULTIPLE SCLEROSIS: PREVALENCE STUDY IN A HIGH COMPLEXITY HOSPITAL.

CARLA WELCH DA SILVA / HOSPITAL GERAL DE FORTALEZA; CARLA WELCH DA SILVA / HOSPITAL GERAL DE FORTALEZA; PAULO GOBERLÂNIO DE BARROS SILVA / HOSPITAL GERAL DE FORTALEZA; YARA DE PAULA FARIAS / HOSPITAL GERAL DE FORTALEZA; AMANDA DE OLIVEIRA FREITAS / HOSPITAL GERAL DE FORTALEZA; LUCAS SILVESTRE MENDES / HOSPITAL GERAL DE FORTALEZA; MILENA SALES PITOMBEIRA / HOSPITAL GERAL DE FORTALEZA; GABRIELA JOCA MARTINS / HOSPITAL GERAL DE FORTALEZA; JOSÉ ARTUR COSTA D□ALMEIDA / HOSPITAL GERAL DE FORTALEZA;

Introduction: Multiple sclerosis (MS) is a chronic, inflammatory, demyelinating disease of central nervous system (CNS). A number of motor impairments and sensory disorders occur in MS and may be presented in varied manners in the orofacial region. Objective: To describe oral findings in patients followed in Interdisciplinary Care Center for Patients with MS in neurological clinic of a general hospital of high complexity in Fortaleza. Materials and Methods: Our observational transversal study was conducted during 8 months. Samples were given for convenience. Data were collected through medical records. Relevant items included age, gender and medication. After collecting data, extraoral and intraoral examination was made. The results were tabulated and expressed as mean ± standard deviation for quantitative variables and absolute frequency and percentage for categorical variables. Results: 52 patients were evaluated. The higher MS prevalence was seen in women (84.6%), with a mean age of 38±11 years old. The most prevalent medications in use were interferon (24.5%), fingolimod (13.2%), glatiramer acetate and natalizumab (11.3%), azathioprine (7.5%), dimethyl furamate and pregabalin (7.5%), gabapentin (5.7%), benzodiazepines (13.5%), zolpidem and amitriptyline (3.8%). Regarding to dental treatment needs, the most prevalent were extractions (n=5) and periodontal treatment (n=6). Among orofacial alterations the findings included four patients with neurosensorial alteration (trigeminal neuralgia [3] and glossopharyngeal neuralgia [1]), three cases of temporomandibular disorder, three cases of xerostomia and stomatitis and one patient with dysphagia. Conclusion: Oral findings reinforce the need of dental professionals in the multidisciplinary MS team, especially in the evaluation of trigeminal and glossopharyngeal neuralgia. The contribution in diagnostic suggestions of neurosensorial alterations improves patient□s quality of life.

CARLA WELCH DA SILVA - dra.carlawelch@gmail.com

Poster Presentation - Multidisciplinary care

93487 - DEFICIT IN MOTOR FUNCTION IN PERSONS WITH MULTIPLE SCLEROSIS: IMPLICATIONS OF MUSCLE STRENGTH AND POWER FROM FUNCTIONAL TASKS IN WALKING AND DISEASE STEP

Cintia Ramari / Faculty of Physical Education, University of Brasília, Brasília, Brazil; Lars G. Hvid / Exercise Biology, Department of Public Health, Aarhus University, Aarhus, Denmark; Ulrik Dalgas / Exercise Biology, Department of Public Health, Aarhus University, Aarhus, Denmark; Ana R. Diniz / Faculty of Ceilândia, University of Brasília, Brasília, Brazil; Felipe von Glehn / Faculty of Medicine, University of Brasília, Brasília, Brazil; Ana Cristina de David / Faculty of Physical Education, University of Brasília, Brasília, Brazil;

Introduction: The bursts of focal inflammation and neurodegeneration are known as predominant causes of disability in multiple sclerosis (MS). Changes in nerve signal conduction impairs the neuromuscular system to perform rapid motor actions due to impairment in muscle strength and power, leading to decrement in walking capacity. Measuring muscle strength and power is important to identify modifiable determinants of motor function, and then develop interventions targeting these. Objectives: to investigate deficits in walking capacity as well as in muscle strength and power in persons with MS (pwMS), and to examine associations among muscle strength and power and walking capacity and disease step. Methods: Thirty relapse-remitting pwMS (age = 41.9 years; weight = 68.37 kg; Patient Determined Disease Step, PDDS = 1.23) and 28 matched healthy control (HC) were enrolled. Walking speed was measured using the GaitRite System. Walking endurance was measured by the distance travelled during an intermittent walking of 12 minutes. Muscle strength and power were measured during dynamic functional tasks (e.g., chair rise and plantar flexion) on a force platform. Results: Muscle strength and power were impaired in people with MS. Deficits in power were more apparently, with the MS group performing ~20% and ~15% worse relative to the HC during the plantar flexion and the chair rise, respectively. More disable people with MS (PDDS ≥ 1) walked significantly less and slow, and presented higher deficit in strength and power during chair rise. Significant associations among strength and power and walking capacity and PDDS were found. Conclusions: Efficient and non-fatiguing functional tasks - chair rise and plantar flexion - detected deficit in muscle strength and power in pwMS. Muscle power was the most impaired muscle function, especially for more disable patients. Strength and power also explained impairment in walking speed and endurance, as well as in disease step.

CINTIA RAMARI FERREIRA - cintiaramari@yahoo.com.br

Poster Presentation - Multidisciplinary care

93485 - PREDICTING LONG WALKING CAPACITY FROM THE TIMED 25-FOOT WALK TEST IN PEOPLE WITH MULTIPLE SCLEROSIS A POTENTIAL SIMPLE AID TO ASSIST AMBULATION SCORING?

Cintia Ramari / Faculty of Physical Education, University of Brasília, Brasilia, Brazil; Peter Feys / REVAL Rehabilitation Research Center, BIOMED, Faculty of Rehabilitation Sciences, Hasselt University, Diepenbeek, Belgium.; Tobias Gaemelke / Exercise Biology, Department of Public Health, Aarhus University, Aarhus, Denmark; Lars G Hvid / Exercise Biology, Department of Public Health, Aarhus University, Aarhus, Denmark; Ulrik Dalgas / Exercise Biology, Department of Public Health, Aarhus University, Aarhus, Denmark;

Introduction: In persons with multiple sclerosis (pwMS) disability builds as the disease progresses, with walking impairment being frequent and considered very invalidating by the patients. Although previous studies have investigated associations between short and long walking tests, the prediction of a long walking test such as the 6-minute walk test (6MWT) from a short walking (the timed 25-foot walk, T25FW) using a large MS sample remain to be elucidated. Objectives: To examine if the T25FW (i.e. a short, time efficient and non-fatiguing test) can provide an acceptable prediction of long walking capacity in terms of the 6MWT in pwMS. Methods: 502 pwMS were recruited from research centres from 11 countries (United States, Israel, 9 EU countries), all being members of the European Rehabilitation In MS (RIMS) network. For the T25FW, participants were instructed ‘ to walk at fastest but safe speed over a 25-foot course. Long walking capacity was assessed by the distance covered during the 6MWT. A simple linear regression was performed between the T25FW and the 6MWT with a forced intercept at zero to determine the prediction equation. The Bland-Altman plot analysis was used to evaluate a bias between the mean differences, and to estimate a 95%-agreement interval between methods - actual and predicted distances. The Intraclass Correlation Coefficient (ICC) was calculated. Results: Based on the ICC-value of 0.96 (95% CI, 0.95: 0.96), the actual and the predicted 6MWT distances showed an excellent reliability. In addition, the Bland-Altman plot reflected the same pattern showed by the regression between the actual 6MWT and T25FW. Conclusions: The T25FW speed can predict long walking capacity in pwMS in terms of the 6MWT distance with an acceptable margin of error. In the future, the T25FW may offer a simple aid to assist clinicians in improving their ambulation scoring in pwMS in clinical practice.

CINTIA RAMARI FERREIRA - cintiaramari@yahoo.com.br

Poster Presentation - Multidisciplinary care

93488 - EVALUATION OF THE VERBAL FLUENCY OF ADULTS WITH MULTIPLE SCLEROSIS

Clarice Maria Siqueira Falcão Wanderley / Centro Universitário de João Pessoa; Bianca Etelvina dos Santos Oliveira / Funad; Ivonaldo Leidson Barbosa Lima / Centro Universitário de João Pessoa;

Introduction: Multiple sclerosis is a chronic inflammatory, demyelinating, autoimmune neurological disease that causes changes in the functioning of the central nervous system, with several symptoms of global motor skills, sensory aspects and cognition. All of these symptoms interfere with the patient‘ s quality of life. Verbal fluency is a common test in neuropsychological tests and includes a quick recall of items with a specific characteristic Objective: To analyze the verbal fluency performance of adults with Multiple Sclerosis. Methods: A research was carried out at the reference and care center for Multiple Sclerosis of the State of Paraíba, and was approved by the ethics committee of the institution of origin under number 3,790,065. Twenty-seven people with multiple sclerosis participated in the research, who meet the eligibility criteria: literate people, male and female, from 21 to 60 years old, with a medical diagnosis of multiple sclerosis, without other comorbidities and with the last outbreak less than three months ago. These people underwent two assessments of verbal fluency: semantics, evocation of animal names, in 60 seconds; and a phonemic, naming of names that starts with a letter "A", in 60 seconds. The data were analyzed quantitatively. Results: The participants had an average of 39.6 years of age (± 12.22) and an average time of medical diagnosis was 5.3 years (± 4.49). There were 21 females and six males. The mean of names evoked in the semantic verbal fluency was 15.4 (± 3.74) and in the phonemic verbal fluency 13.14 (± 3.92). A negative correlation was observed between verbal fluency tests with age and, mainly, with the time of diagnosis. Conclusions: The longer the diagnosis time and the older the patient with multiple sclerosis, the worse the performance in verbal fluency tests, revealing more difficulties in cognitive functioning.

CLARICE MARIA SIQUEIRA FALCÃO WANDERLEY - ffclarice@gmail.com

Poster Presentation - Multidisciplinary care

93315 - EFFECTS OF PHYSIOTHERAPY ON PAIN AND QUALITY OF LIFE IN PEOPLE WITH MULTIPLE SCLEROSIS

Gabriela Alves dos Santos / Universidade Filadélfia de Londrina; Beatriz Yukari Yokoyama / Universidade Filadélfia de Londrina; Roseli Nicio / Universidade Filadélfia de Londrina; Roberto Toshio Nicio / Universidade Filadélfia de Londrina; Renan Augusto Rodrigues / Universidade Filadélfia de Londrina; Karina Perez Porto / Universidade Filadélfia de Londrina; Vinicius Aparecido Yoshio Ossada / Universidade Filadélfia de Londrina; Heloísa Galdino Gumieiro Ribeiro / Universidade Filadélfia de Londrina; Viviane de Souza Pinho Costa / Pontifícia Universidade Católica do Paraná; Michelle Moreira Abujamra Fillis / Universidade Filadélfia de Londrina;

Introduction: Multiple Sclerosis is defined as a degenerative and chronic disease that occurs in the Central Nervous System, and its symptoms significantly interfere with the quality of life of people with MS. Objective: The aim of this study was to evaluate the effect of physiotherapy associated with Shiatsu on pain and quality of life in people with Multiple Sclerosis (MS). Methods: Experimental study with people diagnosed with MS, randomly divided into two groups: Treatment group (n = 9) submitted to 8 physiotherapy sessions associated with Shiatsu and control group (n = 8) oriented to perform physical exercises regularly. Participants were evaluated before and after treatment by the expanded disability status scale (EDSS), visual analog pain scale (VAS), and multiple sclerosis impact scale (MSIS-29). Results: Seventeen people with MS aged between 25 and 70 years participated in this study. In the total sample, the mean VAS was 2,29 ± 2.80, physical MSIS-29 was 34,92±27,26 and the cognitive was 39,71±30. The values in the pre/Post intervention/P value, respectively in the treatment group were VAS 3,22±3,27/ 0.33±1.00/ 0,023, MSIS-29 physical 37,18±26,99/ 26,31±20,23/ 0,033 and the MSIS-29 psychological 42,35±30,70/ 26,90± 24,63/ 0.019. The control group was EVA 1.25±1.83/ 3,63 ± 2,38/ 0,043, physical MSIS-29 30,15±29,60/ 17,96±11,39/ 0,186 and the psychological MSIS-29 was 34,71±32,66/ 23,95±22.5/ 0,416. Conclusion: Pain and quality of life of individuals with EM improved significantly with the intervention.

GABRIELA ALVES DOS SANTOS - gabrielaas97@yahoo.com

Poster Presentation - Multidisciplinary care

93314 - SHIATSU-ASSOCIATED PHYSICAL THERAPY ON PAIN AND FATIGUE ON PEOPLE WITH MULTIPLE SCLEROSIS

Gabriela Alves dos Santos / Universidade Filadélfia de Londrina; Beatriz Yukari Yokoyama / Universidade Filadélfia de Londrina; Roseli Nicio / Universidade Filadélfia de Londrina; Roberto Toshio Nicio / Universidade Filadélfia de Londrina; Renan Augusto Rodrigues / Universidade Filadélfia de Londrina; Karina Perez Porto / Universidade Filadélfia de Londrina; Vinicius Aparecido Yoshio Ossada / Universidade Filadélfia de Londrina; Heloísa Galdino Gumieiro Ribeiro / Universidade Filadélfia de Londrina; Viviane de Souza Pinho Costa / Pontifícia Universidade Católica do Paraná; Michelle Moreira Abujamra Fillis / Universidade Filadélfia de Londrina;

Introduction: Pain and fatigue are common symptoms in multiple sclerosis and directly related to the disease and its consequences. Objective: To evaluate the effect of Shiatsu-associated physical therapy on pain and fatigue on people with Multiple Sclerosis (MS). Methods: Randomized clinical trial with people diagnosed with MS divided into two groups: Treatment Group (TG) - Shiatsu-associated physical therapy (n = 9) and Control Group (n = 8). Participants in the TG underwent 8 physical therapy treatment sessions associated with shiatsu. Participants were assessed before and after treatment by the Expanded Disability Status Scale (EDSS), Neuropathic Pain Questionnaire (DN4), Visual Pain Scale (VAS) and Fatigue Impact Scale (MFIS), and description of sociodemographic. Results: Seventeen people with MS (09 men) aged 45.18 ± 3.06 years participated in this study. In the total sample the average of DN4 was 1.65 ± 20.02, VAS was 2.29 ± 2.80, MFIS was 39.47 ± 29.67 and 52.9 % had a score > 38 in the MFIS that corresponds presence of fatigue. The values pre / post-intervention / grade of p, respectively in the treatment group was DN4 2.78 ± 2.16/2.0 ± 2.12/0.432, EVA: 3.22 ± 3.27/0.33 ± 1.00/0.023, total MFIS 44.44 ± 35.91/35 ± 31.70 / 0.068. In the control group was DN4 0.38 ± 0.744 / 2.25 ± 2.71 / 0.054, EVA 1.25 ± 1.83 / 3.63 ± 2.38/0.043 and MFIS 33.88 ± 21.68/25.13 ± 24.22/0.379. Conclusion: Shiatsu was effective in improving pain and fatigue in individuals with MS.

GABRIELA ALVES DOS SANTOS - gabrielaas97@yahoo.com

Poster Presentation - Multidisciplinary care

96651 - CORRELATIONS BETWEEN SLEEP, ANXIETY, DEPRESSION AND QUALITY OF LIFE IN PATIENTS WITH MULTIPLE SCLEROSIS

João Marcos Brandet / Centro Universitário Filadélfia - UniFil; Michelle Moreira Abujamra Fillis / Centro Universitário Filadélfia - UniFil;

Introduction: Multiple sclerosis (MS) is a demyelinating disease in which the insulating covers of nerve cells in the central nervous system are damaged. Sleep disorders, anxiety and depression are frequent in patients with multiple sclerosis, compromising the quality of their life. Objectives: To evaluate the correlations between sleep, anxiety, depression and quality of life in patients with multiple sclerosis. Methods: Cross-sectional study with intentional sampling consisting of 26 patients with multiple sclerosis of ALPEM (Associação Londrinense de Portadores de Esclerose Múltipla). Patients were assessed by: Expanded Disability Status Scale (EDSS), Pittsburgh Sleep Quality Index (PSQI), Functional Determination of Quality of Life (DEFU), Multiple Sclerosis Impact Scale (MSIS-29), Modified Fatigue Impact Scale (MFIS) and Hospital Anxiety and Depression Scale (HADS). The Shapiro-Wilk multivariate normality test was used to describe measures of central tendency and dispersion, using means and standard deviation for normal and median data, minimum and maximum for non-normal data. The Spearman correlation was used for the analysis of the non-parametric variables and the Pearson correlation for the parametric variables. Results: Higher PSQI score are associated with higher HADS score (moderate significant correlation, r = 0,526889). Strong significant correlation scores were found between the PSQI score and MFIS score (r = 0,761365), PSQI score and MFIS-cognitive score (r = 0,829185), PSQI score and MSIS-cognitive-component 7 (r = 0,730947). Conclusion: The results suggest that patients with multiple sclerosis presented fatigue associated with psychoemotional changes and poor sleep quality, which in turn correlates with quality of life.

JOÃO MARCOS BRANDET - jmbrandet@edu.unifil.br

Poster Presentation - Multidisciplinary care

96653 - INFLUENCE OF SLEEP DISORDERS ON NEUROMOTOR TESTS IN PATIENTS WITH MULTIPLE SCLEROSIS

João Marcos Brandet / Centro Universitário Filadélfia - UniFil; Michelle Moreira Abujamra Fillis / Centro Universitário Filadélfia - UniFil; Heloísa Galdino Gumieiro Ribeiro / Centro Universitário Filadélfia - UniFil; Gabriela Alves dos Santos / Centro Universitário Filadélfia - UniFil;

Introduction: The presence of demyelination plaques in various parts of the central nervous system and formation of glial scars are characteristic of the pathophysiology of multiple sclerosis (MS). Sleep disorders are frequent in patients with multiple sclerosis, interferes with daytime wakefulness, affects daily functional performance. Objectives: To identify the possible correlations between sleep disorders, disability of the multiple sclerosis patient with the functional capacity. Methods: Cross-sectional study with intentional sampling consisting of 26 patients with multiple sclerosis of ALPEM (Associação Londrinense de Portadores de Esclerose Múltipla). Patients were assessed by: Expanded Disability Status Scale (EDSS), Pittsburgh Sleep Quality Index (PSQI), Functional Determination of Quality of Life (DEFU), Timed Up and Go (TUG), Timed 25-Foot Walk (T25-FW) and 6-minute walk test (6MWT). The Shapiro-Wilk multivariate normality test was used to describe measures of central tendency and dispersion, using means and standard deviation for normal and median data, minimum and maximum for non-normal data. The Spearman correlation was used for the analysis of the non-parametric variables and the Pearson correlation for the parametric variables. Results: Patients with sleep disorders demonstrated a significantly slower TUG score, decreased quantitative mobility and leg function performance in the T25-FW, reduced walking ability and balance in the 6MWT compared to patients with sleep quality. Strong-modest significant correlation scores were found between the PSQI score and neuromotor tests. Conclusion: These results suggest that sleep quality and performance in neuromotor tests is reduced and is associated with total EDSS scores in people with MS with moderate disability.

JOÃO MARCOS BRANDET - jmbrandet@edu.unifil.br

Poster Presentation - Multidisciplinary care

96255 - VIRTUAL CARE EXPERIENCE BY MS MULTIDISCIPLINARY TEAM DURING COVID-19 PANDEMIC

PATRICIA CHAGAS ROCHA D ALMEIDA / HOSPITAL GERAL DE FORTALEZA; MARIA LUISA PEREIRA DE MELO / UECE- HOSPITAL GERAL DE FORTALEZA; KEYLA REJANE FRUTUOSO DE MORAIS / HOSPITAL GERAL DE FORTALEZA; PAULO SÉRGIO ALVES LISBOA / HOSPITAL GERAL DE FORTALEZA; NAIR ANTÔNIA ASSUNTA CORSO CÂMARA / HOSPITAL GERAL DE FORTALEZA; LUCAS SILVESTRE MENDES / HOSPITAL GERAL DE FORTALEZA; MILENA PITOMBEIRA SALES / HOSPITAL GERAL DE FORTALEZA; IGOR BESSA SANTIAGO / HOSPITAL GERAL DE FORTALEZA; GABRIELA JOCA MARTINS / HOSPITAL GERAL DE FORTALEZA; JOSÉ ARTUR COSTA D' ALMEIDA / HOSPITAL GERAL DE FORTALEZA;

Introduction: The Virtual Office is one of the strategies of Brazil□s Ministry of Health to face the new coronavirus, bringing assistance to the population, minimizing the indirect impacts caused by the pandemic, such as the postponement of visits. Objectives: To describe the experience of virtual care during COVID-19 pandemic, experienced by Multiple Sclerosis (MS) multidisciplinary team at a MS Center. Methods: Initially, specific guidelines for the quarantine period were developed by each professional category (nurse, physiotherapist, nutritionist, psychologist, neurologist), such as dietary recommendations, strategies for MS treatment in home isolation, medication use guidelines, recommendations for muscle stretching and muscle/respiratory strengthening exercises to be performed at home. The materials, were then distributed, virtually, by WhatsApp or e-mail. For patients in need of individual care, the indicated professional contacted them by phone and sometimes video calls were necessary. These tools enabled health professionals to supply care, giving continuity to the care provided to patients undergoing treatment in an agile, comfortable and safe way. Results: 308 virtual appointments were made between March and June. Of these, 38 were psychology consultations, 74 nursing care, and 196 medical attendance. Beside that, there were 49 face-to-face medical consultations. The tele-consultation took place by telephone (306) and only two video calls. The choice of the service modality (phone calls, video calls) type was selected by the clinical condition, patients ability and affinity of the health professional to the modality type. The service protocol followed the steps of a conventional consultation. At end, patients and professionals were satisfied. Conclusion: Virtual care is an innovative strategy that can be used routinely, and opens great possibilities of care, mainly for patients who live in the countryside and for those who have mobility difficulties.

JOSE ARTUR COSTA D' ALMEIDA - arturdalmeida@gmail.com

Poster Presentation - Multidisciplinary care

96626 - EFFECTIVENESS OF MUSIC-BASED THERAPY AS AN APPROACH TO MOTOR AND COGNITIVE DISORDERS IN INDIVIDUALS WITH MULTIPLE SCLEROSIS: SYSTEMATIC REVIEW

Josiane Lopes / Universidade Estadual do Centro-Oeste (UNICENTRO); Maria Lígia Pinto Ferraz / Universidade de Brasília (UnB); Leidiane Fortuna Inada / Universidade de Brasília (UnB); Valéria Cristina Zamataro Tessaro / Universidade Estadual de Londrina (UEL);

Introduction: People with multiple sclerosis (MS) generally show motor and cognitive symptoms. Many extensive and long-term rehabilitation are required. Many interventions such as music-based therapy (MBT) have been introduced into neurological rehabilitation as training tools to MS people. Objective: The aim of this study is to review the evidences of literature about the effectivity of MBT on motor and/ or cognitive symptoms in MS people. Methods: The databases Cinahl, Cochrane, Eric, Google scholar, Ibecs, Lilacs, Medline, Pedro, Pubmed, Scielo, and Scopus were searched. Cited references of included articles where screened for potential inclusion. A systematic literature search up to 12th of July 2020 was conducted to include studies that have used music-based interventions for ≥ 3 weeks in the MS people targeting motor and/or cognitive symptoms. No limitations to publication date was set. Results: Thirty seven studies were found and selected seven studies. The majority was clinical trials, only two studies were case series. Modalities of music-based interventions were clustered into instrument-based, listening-based, rhythm-based, and multicomponent-based music interventions. Overall, studies consistently showed that music-based interven¬tions had similar or larger effects than conventional rehabilitation on upper limb function (fine motricity, hand and arm capacity, finger and hand tapping velocity/variability), mobility (gait parameters), and cognition (verbal memory and focused attention). Conclusion: Instrument-based music interventions can improve fine motor dexterity, gross motor functions in MS people. Rhythm-based music interventions can improve gait parameters of velocity and cadence. Cognition in the domains of verbal memory and focused attention can improve after listening-based music interventions in MS people.

JOSIANE LOPES - josianelopes@yahoo.com.br

Poster Presentation - Multidisciplinary care

96625 - THE EFFECTS OF EQUINE-ASSISTED THERAPY ON FUNCTIONAL MOBILITY AND BALANCE OF INDIVIDUALS WITH MULTIPLE SCLEROSIS DIAGNOSIS

Josiane Lopes / Universidade Estadual do Centro-Oeste (UNICENTRO); Maria Lígia Pinto Ferraz / Universidade de Brasília (UnB); Leidiane Fortuna Inada / Universidade de Brasília (UnB); Valéria Cristina Zamataro Tessaro / Universidade Estadual de Londrina (UEL);

Introduction: Individuals with multiple sclerosis (MS) often present changes in relation to functional mobility and balance. There are many therapies that can be used to rehabilitate such deficits, among them equine-assisted therapy. Objective: To evaluate the effect of equine-assisted therapy on functional mobility and balance in individuals with MS. Methods: An analytical interventional study was carried out with the participation of 12 individuals, where 6 individuals were randomized into an intervention group (submitted to 10 sessions of equine-assisted therapy) and 6 individuals in a control group (submitted to 10 sessions of physiotherapy with emphasis on training of balance). Both activities were carried out twice a week on alternate days lasting 40 minutes. Balance was analyzed using the Berg balance scale and functional mobility was analyzed using the Timed Up and Go test (TUG with initial sensor. Descriptive analysis of the data was performed using tables with mean and standard deviation. For intra comparison Student‘ s t-test was used and inter-groups Results: 12 individuals were evaluated, 10 female and 2 male, with a mean age of 40 ± 12 years, ranging from 18 to 63 years. balance ($p = 0.011$) and functional mobility ($p = 0.006$) after the intervention of equine-assisted therapy, whereas in the physiotherapy group there was functional improvement ($p = 0.04$), but not balance. Conclusion. Balance and functional mobility of individuals with MS improved significantly under the intervention of equine-assisted therapy.

JOSIANE LOPES - josianelopes@yahoo.com.br

Poster Presentation - Multidisciplinary care

95507 - COGNITIVE IMPAIRMENT IN MULTIPLE SCLEROSIS - BRAZILIAN COHORT

Kenia Repiso Campanholo / Hospital das Clínicas FMUSP; Fernanda Moraes Dantas / Hospital das Clínicas FMUSP; Maria Fernanda Mendes / Hospital das Clínicas FMUSP; Carina T Spedo / Faculdade de Medicina USPRP; Samira Luisa Apóstolos / Hospital das Clínicas FMUSP; Dagoberto Callegaro / Hospital das Clínicas FMUSP;

Introduction: Cognitive symptoms occurs in 50 to 90 % of Multiple Scleroses (MS). Documented cognitive impairment has been valued to confirm disease activity and/or progression. Cognitive evaluation according to MS phenotype and functional disability shows heterogeneous findings. Objectives: To evaluate cognitive impairment in MS. Methods: 309 consecutive MS patients, evaluated in a tertiary Centre between 2017 to 2020. Inclusion criteria: McDonalds 2017 MS diagnosis, age > 18 years, complete 50% of the cognitive battery. Clinical data include: MS phenotype (Lublin, 2014), disease duration, medication, Expanded Disability Status Scale (EDSS), 9-Hole Peg Test (9HPT), and 25-Foot Walk (25-FW). Cognitive evaluation contained: Brief International Cognitive Assessment for MS (BICAMS), Hospital Anxiety and Depression Scale (HADS) and the Visual Analogue Scale (VAS). Cognitive impairment (CI) was considered if z-score≤1.5 in any of the BICAMS tests. Statistical analysis with control for interference variables (age, education, drugs, anxiety, depression and fatigue) were conducted. Results: The sample consists of 50 Progressive (PMS) and 259 Relapsing-Remitting (RRMS) patients, aged 41.64(+12.34), 12.70(+3.51) education years, 12.95(+8.22) disease duration, 2.5(1.0-6.0) EDSS, with 268(87%) using DMD and 118(38%) psychoactive drugs. There were 168(54%) participants with CI [132(51%) RRMS and 36(72%) PMS; p=0.006]. Comparing the phenotypes, there were significant differences among EDSS (RRMS 2.71+1.17 and PMS 5.99+0.55; p <0.001), 25FW (RRMS 7.52+4.85 and PMS 53.49+13.02; p=0.003), 9HPT (RRMS 26.75+3.24 and PMS 56.57+8.94; p=0.004) and SDMT (RRMS 41.75+1.53 and PMS 30.95+3.03; p=0.005). Disease duration correlated with 25FW (r=0.424; p=0.028) and cognition (CVLT r=-0.412; p=0.033, BVMT r=-0.443; p=0.021 and SDMT r=-0.451; p=0.018). EDSS did not correlate with motor skills and cognition. Conclusion: CI was prevalent in MS patients and was impacted for disease evolution. PMS group had a greater number of patients with CI, however only the information processing speed was significantly lower in this group.

KENIA REPISO CAMPANHOLO - krcampanholo@yahoo.com.br

Poster Presentation - Multidisciplinary care

96860 - TELEMEDICINE DEMANDS FROM PATIENTS WITH DEMYELINATING DISEASES DURING THE COVID-19 PANDEMIC IN BRAZIL: A SIMPLE E-MAIL CAN GO A LONG WAY

Lucas Bueno Feo / HCFMUSP; Guilherme Diogo Silva / HCFMUSP; Caio César Diniz Disserol / HCFMUSP; Samira Luisa Apóstolos-Pereira / HCFMUSP; Dagoberto Callegaro / HCFMUSP;

Introduction: COVID-19 pandemic has brought increased demand of telemedicine use, as it allows adequate application of social distancing and hygiene measures. To establish contact with the large number of patients in a public health center, an e-mail address was created, so their demands could reach the medical staff without need of in person consultations. Objectives: To quantify and categorize patients demands sent to the staff e-mail address. Methods: We reviewed e-mails from 17th of March to 22th of July. Patient demands were categorized in possible relapse, disease and drug monitoring, drug-related problems, special situations, social burden of multiple sclerosis, access to care and comorbidities. Results: We evaluated 438 emails. Excluding duplicates, empty emails and grateful responses, 406 records remained. COVID-19 subject corresponded to 25 cases, including orientation regarding respiratory symptoms, social distancing and interpretation of COVID-19 diagnostic testing. In the remaining 381 records, the three most common subjects were: disease and drug monitoring (check magnetic resonance imaging for radiological activity or laboratory tests for drug toxicity and vitamin D levels), access to care (rescheduling medical appointments and laboratorial/radiological testing) and drug-related complaints (78% access, 16% side-effects, 8% dose adjustment and 1% of drug effectiveness expectations). Social burden of multiple sclerosis was addressed in 14% of records, related to occupational adjustments (home office recommendations, work leave permits, laboral reallocation) and social security benefit assessment. Special situations in multiple sclerosis care such as vaccination, pregnancy and alternative therapies were also addressed via email. Patients reported new or worsening of previous neurological symptoms in 25 emails. Conclusion: Patients demands addressed through e-mail contact were diverse. Common subjects pertained to monitoring, access to care and clinical complaints. These demands mirrors day-to-day practice of in person consultations. Access to care subject reflects procedural changes that took place during the pandemic.

LUCAS BUENO FEO - lbuenofeo@hotmail.com

Poster Presentation - Multidisciplinary care

93458 - CHRONIC PAIN IN MULTIPLE SCLEROSIS: ELECTROMAGNETOTHERAPY AND ACUPUNCTURE

Teresa Cristina Vieira / ABEM - Associação Brasileira de Esclerose Múltipla; Mauricio Ossamu Bando / ABEM - Associação Brasileira de Esclerose Múltipla; Alice Estevo Dias / ABEM - Associação Brasileira de Esclerose Múltipla;

Background: Chronic pain is common in people with Multiple Sclerosis (PwMS) with approximately 42% to 90% experiencing pain at some stage of the disease course. Pharmacological tr5eatment in MS-related pain are usually unsatisfactory and often have side effects, and therefore, other alternative methods for pain relief are critical. Objectives: To evaluate the effectiveness of analgesic from electromagnetotherapy associated with acupuncture for chronic pain relief in a PwMS group. Methods: A total of 12 patients with MS were included in this study, being 10 women and 2 men, aged between 40 and 74 years. Mean Expanded Disability Status Scale (EDSS) score was 4.8, around 42% of patients were classified as having relapsing-remitting multiple sclerosis, 33% as secondary-progressive, and 25% primary-progressive. All complained of pain (10=back, 2=legs/feet), used pharmacological treatment for pain (without efficient results), underwent 15 manual acupuncture sessions and electromagnetic therapeutic equipment applications (Kenkobio®), and answered a structured pain questionnaire. Results: The first outcome was reduction in pain intensity or elimination, whilst the secondary and point improved symptoms and quality of life. This preliminary study revealed that MS-related pain has a significant impact on health, activity, and participation of people, drastically reducing the quality of life. Conclusions: Manual acupuncture in combination with electromagnetotherapy demonstrate to have a clinically relevant effect on chronic pain in PwMS. The treatment with these traditional Chinese medicine methods is a reasonable option for pain in MS-related.

MAURICIO OSSAMU BANDO - mobando@uol.com.br

Poster Presentation - Multidisciplinary care

93457 - IMPACT OF DYSARTHRIA IN MULTIPLE SCLEROSIS

Alice Estevo Dias / ABEM - Associação Brasileira de Esclerose Múltipla; Mauricio Ossamu Bando / ABEM - Associação Brasileira de Esclerose Múltipla;

Background: Multiple Sclerosis (MS) is a demyelinating, degenerative, chronic and uncertain course with a variation in the involvement of the central nervous system and potential for the propagation of speech disorders. Dysarthria is a common symptom and occurs in 40-70% of people affected by the disease. Objective: To establish a comparison between the perception of groups of people with MS in the impact of dysarthria on quality of life. Methods: 20 individuals with dysarthria due to MS were divided into two groups. Group 1: people with mild dysarthria (10 individuals) and Group 2: with moderate dysarthria (10 individuals). The individuals aged from 27 to 55 years and Expanded Disability Status Scale (EDSS) between 2.5 and 7.5. All the participants underwent vocal assessment, perceptual and acoustic analysis, based on Dysarthria Assessment Protocol and the analysis of impact of dysarthria using questionnaire Living with Dysarthria (LwD). The data underwent statistical analysis to compare the groups in each parameter (Mann-Whitney Test). Results: In the assessment of dysarthria, individuals in Group 1 showed differences in intensity range (p=0,015), maximum phonation time (p=0,010), breathing (p=0,018), phonation (p=0,048), resonance (p=0,026, articulation (p=0,020), prosody (p=0,028), and dysarthria degree (p=0,012). When we compared Group 2. In LwD questionnaire, it was observed that dysarthria had a similar negative impact on quality of life in bloth groups, as indicated by the total score (p=0,328) with various aspects influence this result. Conclusions: Self-assessment of voice, speech and communication does not nece4ssarily reflect the severity of dysarthria, indicating that systematic protocols are necessary to help the identification of problems of that need to be addresses in the intervention, as well as the individualized rehabilitation planning.

MAURICIO OSSAMU BANDO - mobando@uol.com.br

Poster Presentation - Multidisciplinary care

93456 - PERFORMANCE OF SOCIAL SERVICE IN MULTIPLE SCLEROSIS

Priscila da Silva Santos / ABEM - Associação Brasileira de Esclerose Múltipla; Mauricio Ossamu Bando / ABEM - Associação Brasileira de Esclerose Múltipla; Alice Estevo Dias / ABEM - Associação Brasileira de Esclerose Múltipla;

Introduction: In addition to the management of symptoms and the preservation of functions, interventions on social issues area essential to improve the quality of life of patients affected by Multiple Sclerosis (MS). Objective: To identify difficulties and obstacles experienced by people with MS, highlighting the role of Social Work in promoting physical, psychological and social well-being. Methods: The sample involved 73 people with MS, aged between 17 and 71 years (mean=41/SD=11.38). All responded to the semi-structured Sociodemographic Questionnaire containing 30 questions, developed specifically for this population. Results: It was observed that MS requires constant adaptation of patients and those who live with them. These personal issues make the role of the Social Worker fundamental for the acceptance and adaptation of the conditions imposed by the disease. Guidelines and referrals on social rights, duties and benefits were carried out, with the subjects most demanded by the participants: medicines (n=73/100%), transport (n=59/80%) and social benefits (n=22/30%). Conclusions: In addition to welcoming, the difficulties identified in this study determined specific actions of social assistance, such as analysis, elaboration, coordination and execution of plans to enable rights and access to social politics, as well as actions directed to the development of actions with multidisciplinary care.

MAURICIO OSSAMU BANDO - mobando@uol.com.br

Poster Presentation - Multidisciplinary care

96757 - EFFECTS OF NEUROLOGIC MUSIC THERAPY ON EXECUTIVE FUNCTION TRAINING IN NMO AND MS PATIENTS

Cybelle Loureiro / CIEM MS Research Center Federal University of Minas Gerais Medical School Belo Horizonte, Brazil; Fábio Henrique Silva / Federal University of Minas Gerais Medical School Belo Horizonte, Brazil; Marina Barbosa Soares / Federal University of Minas Gerais Medical School Belo Horizonte, Brazil; Natália C. Talim / Federal University of Minas Gerais Medical School Belo Horizonte, Brazil; Marco Lana-Peixoto / CIEM MS Research Center Federal University of Minas Gerais Medical School Belo Horizonte, Brazil;

INTRODUCTION: Since 2013 we study the effects of Neurologic Music Therapy (NMT) as a mediator on changes in functional cognitive and mood responses in group intervation cared out in a CIEM Multiple Sclerosis Research Center at the Federal University of Minas Gerais, Brazil (UFMG). OBJECTIVE: This technique aims to provide training on functions such as: to create new aspirations, to set goals, to become motivated to act, to know how to plan and execute tasks, and to communicate to the group the emotional experiences translated into songs. METHODS: The methodology is based on a technique in Executive Function Training (MEFT) for the treatment of Neuromyelitis Optica (NMO) and Multiple Sclerosis (MS). Right after the beginning of the treatment the patients wrote two songs on issues related to their perceptions on disease treatment, individual feelings, skills on group organization, problem solving, decision making and reasoning. We used the Beck Depression Inventory (BDI) at baseline (T1) and after 3 months of intervention (T2). RESULTS: At the end of the initial phase we have produced five compositions. Although the intervention did not have aesthetic pretensions, patients seeked musical coherence according to their perspective and sense of beauty. The BDI showed a decrease in mean score of 16.75 (T1) to 15 (T2) what may reflect the early effects of the intervention. At the end of 2019 we have produced nine compositions which have already been transcribed on musical scores and also recorded in CD. CONCLUSION: We aim to edit a book containing these nine songs. In the book all patients will report how they succeeded and how they perceived themselves in each of the nine songs. Presently, we are trying to get support to have the book published.

NATÁLIA CIRINO TALIM MENEZES - talim.fono@gmail.com

Poster Presentation - Multidisciplinary care

96758 - MUSIC THERAPY AT CIEM IN TIME OF CORONAVIRUS: THE SCIENCE OF LIVING WELL

Cybelle Loureiro / CIEM MS Research Center Federal University of Minas Gerais Medical School Belo Horizonte, Brazil; Fábio Henrique Silva / Federal University of Minas Gerais Medical School Belo Horizonte, Brazil; Natália C. Talim / CIEM MS Research Center Federal University of Minas Gerais Medical School Belo Horizonte, Brazil; Marco Lana-Peixoto / CIEM MS Research Center Federal University of Minas Gerais Medical School Belo Horizonte, Brazil;

INTRODUCTION: The coronavirus epidemic has taken over the world and the world is in search of a relief. OBJECTIVE: This project aims to create a musical journey throughout the world in these difficult times. Since last March many countries have celebrated what is being called as virtual music. During the quarentine people are listening to music, simply are following a melody or rhythm, are playing an instrument, or are singing at their windows to express what they consider as a pleasant activity. So, they relieve their stress. This is a historical attitude. We choose specific songs that bring us different memories of our life that we see as precious jewels that may strengthen our physical and mental well-being. Almost all countries in the world are making virtual music. The main point of this present project is to investigate how people are communicating by the use of music in a virtual way. METHODS: We are making a bibliographic survey on virtual music made by musicians, and non-musicians like doctors, nurses, music therapists, and even patients´ family members. This resource will be available to all patients and caregivers at CIEM site. RESULTS: MS and NMOSD patients, their families and caregivers, post-graduate students, our friends, children and employees, will all ultimately, benefit from the practice of the virtual music that this journey will provide. CONCLUSION: We will travel the world through music videos to see how people from Italy, Japan, Germany, France, USA, Brazil, and especially Minas Gerais are making music during these pandemic days. Lockdown has seen opera singers belt out arias from their balconies and families recreate entire musicals in their living rooms.

NATÁLIA CIRINO TALIM MENEZES - talim.fono@gmail.com

Poster Presentation - Multidisciplinary care

96258 - NEUROIMMUNOLOGICAL DISORDERS, NEUROPSYCHOLOGY AND REMOTE PSYCHOTHERAPY: A CASE REPORT DURING THE COVID-19 DISEASE PANDEMIC.

Paulo Sérgio Alves Lisboa / HOSPITAL GERAL DE FORTALEZA; Lucas Silvestre Mendes / HOSPITAL GERAL DE FORTALEZA; Milena Sales Pitombeira / HOSPITAL GERAL DE FORTALEZA; Igor Bessa Santiago / HOSPITAL GERAL DE FORTALEZA; Artur Costa D' Almeida / HOSPITAL GERAL DE FORTALEZA; Gabriela Joca Martins / HOSPITAL GERAL DE FORTALEZA;

CASE: A 32-years-old female patient followed by a positive anti-aquaporin 4 neuromyelitis optica spectrum disorder with symptoms suggesting psychotic depression was submitted to psychological evaluation during approximately eight months. This approach was made in 10 sessions of psychological intervention (70% in-person, 30% in remote telehealth) following the tools of brief psychotherapy and Beck's depression inventory (BDI) with the goal to evaluate cognitive functions, stabilization of psychotic depressive symptoms, rescue of subjectivity e amplification of self-managing skills. DISCUSSION: During the initial psychological evaluation, the patient presented hypotimia, self-depreciation, loss of sexual desire, fatigue, social withdrawn, irritability, suicidal thoughts, visual and auditive hallucinations. The patient was submitted to treatment with many psychotropics such as selective serotonin reuptake inhibitor, tricyclic antidepressants and pregabalin. The short-term memory, processing velocity and executive disfunction was easily observed. During 5 months of in-person care, there was a favorable evolution of the depressive symptoms, with the resolution of the suicidal thoughts and the hallucinatory perceptions. By comparing the BDI there was a switch from severe to moderate classification, and the patient remained with the use of only Venlafaxine. Due to the COVID-19 outbreak crisis, some of the sessions were conducted remotely and the outcome was assessed as satisfactory, considering the stability of psychopathological state and the evaluation tools used in this case. FINAL CONSIDERATIONS: This experience disclosed that the psychological intervention, being in-person or remotely made, can bring a remarkedly benefit for patients with neuroimmunological disorders.

PAULO SÉRGIO - ps-lisboa@hotmail.com

Poster Presentation - Multidisciplinary care

96256 - OPTICAL NEURITIS AS CLINICALLY ISOLATED SYNDROME WITH DIAGNOSTIC CONVERSION TO PSYCHOGENIC DISORDER: A CASE REPORT

Paulo Sergio Alves Lisboa / HOSPITAL GERAL DE FORTALEZA; Carolina Castro e Veras / UNIVERSIDADE FEDERAL DO CEARÁ; Déborath Lúcia de Oliveira Diniz / HOSPITAL GERAL DE FORTALEZA; Fernanda M Maia Carvalho / HOSPITAL GERAL DE FORTALEZA; Milena Sales Pitombeira / HOSPITAL GERAL DE FORTALEZA; Gabriela Joca Martins / HOSPITAL GERAL DE FORTALEZA; Artur Costa D' Almeida / HOSPITAL GERAL DE FORTALEZ;

●CASE: female patient, 34 years old, SAH and DM was admitted to the neurological emergency department of a high complexity hospital with the complaint of loss of visual acuity in the left eye. 15 days before the onset, she had initiated a migraine pattern headache, associated with nauseas, vomiting, photo and phonophobia. She was under investigation in the neurological department during 14 days due to the hypothesis of optic neuritis, with psychological support since the emergency room. The neurological exam, imaging tests and laboratory tests did not show any alterations. The psychological evaluation showed the maintenance of subjective linearity, euthymic mood, preservation of neuropsychological functions and a tendency to magnify the somatic complaints. Favorables criteria for Psychogenic Disorder were identified such as: recent stressor, intrapsychic and interpersonal conflict, generalized pain, indifference to the initial diagnosis and affective ambivalence towards their health status. An ophthalmologist evaluation showed low visual acuity in the right eye, unnoticed by the patient. After diagnostic definition of Psychogenic Disorder, the patient was discharged from the hospital and followed-up by Psychology and Ophthalmology departments. DISCUSSION: It should be noted that the presence of organic pathology does not exclude psychopathological comorbidities. The absence of an organic finding may indicate psychogenic disorder. However, it is common for them to coexist, where the first participates in the expansion of the second symptomatology. FINAL COMMENTS: Psychological interventions in the context of neurological emergencies can contribute to differential diagnosis in Clinically Isolated Syndrome, such as Optics Neuritis. Moreover, it can cooperate in the rationalization of financial resources, in order to avoid unnecessary exams and shorten hospital internment. Patients with psychogenic disorder who adhere to the systematic psychotherapeutic follow-up have a favorable prognosis with appropriate treatment.

PAULO SÉRGIO - ps-lisboa@hotmail.com

Poster Presentation - NMO, ADEM and CIS

96251 - HIV POSITIVE PATIENT WITH TYPICAL DEMIELINATING INJURY OF MULTIPLE SCLEROSIS WITH THE PRESENCE OF PERSISTENT OLIGOCLONAL BANDS

Fernando Elias Borges / Hospital Geral de Goiânia; Bruna Cristina Perius / Hospital Geral de Goiânia; Andreia Vidica Marinho / Hospital Geral de Goiânia; Daniella Francisco Dias Alves / Hospital Geral de Goiânia; Paulo Abner Cardoso de Carvalho / Hospital Geral de Goiânia; Renata Montes Garcia Barbosa / Hospital Geral de Goiânia;

Case presentation: Male patient, 25 years old, HIV positive, using antiretroviral therapy, reported that in December 2017 he started with pain in the left upper limb, associated with paresthesia of the left hand with worsening of efforts. The initial neurological examination showed a slight reduction in strength in the distal segment of the left upper limb, in addition to the Lhermitte sign. There were no other changes to the neurological examination. Magnetic resonance imaging (MRI) of the skull of January 2018 was normal, with abnormal MRI of the cervical type of oval lesion with an inflammatory aspect, lateralized to the left, at the level of C2-C3. A study of cerebrospinal fluid (CSF) had positive oligoclonal bands and an IgG index of 0.68. Other characters and serology were within the normal range. Due to the hypothesis of Isolated Clinical syndrome with high risk of conversion to Multiple Sclerosis, Betainterferone1A 22mcg was started 3 times a week. Therapeutics instituted with clinical stability and good adherence. Patient returned for consultation in October 2019 with worsening of depressive symptoms, pain in left back and shoulder, associated with asthenia. New tests were collected, including CD4 and CD8. These showed a reduction being discussed with an infectious disease specialist and oriented with the suspension of Betainterferone1A. New CSF was collected in April 2020 with persistence of positive oligoclonal bands, IgG index of 1.11. New CD4 showed an increase to 380. Discussion: The interest on this topic is emphasized due to the need for better knowledge about its coexistence and what would be the best way of management. Final comments: Given the scarcity of literature addressing the relationship between Multiple Sclerosis and HIV, continuous study and research on the roots of this association is necessary.

BRUNA CRISTINA PERIUS - bcperius@hotmail.com

Poster Presentation - NMO, ADEM and CIS

93497 - RITUXIMAB IN NEUROMYELITIS OPTICA SPECTRUM DISORDERS: EXPERIENCE OF HOSPITAL DA RESTAURAÇÃO

Bruna Melo Holanda Cavalcanti / Hospital da Restauração; Tarcizio Brito Santos / Hospital da Restauração; Antônio Francisco de Araújo Netto / Hospital da Restauração; Igor Figueiredo Gonçalves / Hospital da Restauração; Maria Íris Moraes Machado / Hospital da Restauração; Álvaro José Porto Moreira / Hospital da Restauração;

Introduction: Neuromyelitis optica (NMO) is a severe inflammatory, autoimmune astrocytopathy, frequently with relapsing course, whose predominant characteristics are optic neuritis and transverse myelitis. Anti-aquaporin 4, a specific antibody, is a helpful diagnostic clue and it is positive in the majority of NMO cases. In order to prevent attacks and disability worsening, treatment should be instituted at the time of diagnosis. Rituximab, a monoclonal antibody, is taking an important place in the maintenance therapy, as many open label studies have shown in recent years. Objectives: to report the use of Rituximab treatment in NMO spectrum disorders (NMOSD) in the scenario of neuroimmunology department in the Hospital da Restauração, in Brazilian Northeast. Methods: It is a retrospective, observational study including 25 NMO patients treated with Rituximab. After relapses therapy, with methylprednisolone or plasma exchange, and others maintenance therapy, like Azathioprine, Rituximab was initiated. We analyze the profile of patients that were submitted to this drug using. The primary outcome is to measure the annualized relapse rate (ARR), defined as a number of clinical attacks per year before and after the drug initiation. Results: In the study, 20 patients are women (80%) and 20 had positive AQP4 antibody (80%). Myelitis as one of the onset clinical manifestation occurred in 14 patients (56%), optic neuritis in 14 patients (56%) and area postrema syndrome in two (8%). Twenty two (88%) patients had used Azathioprin. The mean ARR reduced from 1.09 to 0.14 after therapy. Out of twenty patients that are still using the medication, eighteen (90%) are completely relapse free. One patient had stopped the medication because intolerability and one other because recurrence of infection. Conclusion: Rituximab as NMOSD treatment reduces the frequency of relapses and is well tolerated by patients of Hospital da Restauração.

BRUNA MELO HOLANDA CAVALCANTI - brunaholandac@hotmail.com

Poster Presentation - NMO, ADEM and CIS

96866 - SERONEGATIVE NEUROMYELITIS OPTICA IN A PATIENT WITH HIV: AN UNUSUAL CLINICAL SCENARIO.

Carlos Wagner Pereira Junior / Hospital Madre Teresa; Josemary Cavalcante Lemos Sucupira / Hospital Madre Teresa; Ricardo Menezes Dornas / Hospital Madre Teresa; Pedro Antonio Saldanha de Castro / Hospital Madre Teresa; Maira Cardoso Aspahan / Hospital Madre Teresa; Barbara Akemy Barbosa Cruz / Hospital Madre Teresa;

Case presentation:A 37 yo man presented, 7 years ago, with impaired vision and ocular pain in his left eye, evolving after a few days with amaurosis in this eye. There was a left relative afferent pupillary defect with a normal disc on fundoscopy. He was treated with methylprednisolone 1g/day for 5 days, with complete recovery. At this time the patient was diagnosed with HIV and initiated regular highly active antiretroviral therapy (HAART). No reports of diseases associated with immunodeficiency previously. One month ago, he presented with a subacute myelitis with paraparesis, hypoesthesia in the lower limbs and sphincter dysfunction. MRI performed showed a T2 hyperintensity from T2 to T5 and atrophy of the left optic nerve. The CSF was normal. Anti-AQP4 antibodies by the CBA method was negative. Other differential diagnoses of myelitis were ruled out. Patient denied comorbidities or family autoimmunity history. He evolved with partial improvement of the deficits after treatment with methylprednisolone and plasmapheresis. The patient was discharged from hospital with azathioprine 200mg per day and prednisone 80mg/day Discussion: Untreated HIV replication causes progressive CD4+ T cell loss and a wide range of immunological abnormalities. NMO is a demyelinating, inflammatory and immunomediated disease that affects the Central Nervous System. The association between these two diseases is not common and there are few cases described in the literature. The mechanisms involved in HIV-NMOSD cases are not well defined and may involve immune hyperactivation by the virus itself, immune reconstitution after starting antiretroviral therapy or the development of autoimmune conditions secondary to deregulation of CD4 + T cells by the HIV virus. Final Comments: It is important to describe these cases in order to better define clinical characteristics and outcomes, so that we can better understand its mechanisms and which therapies are more appropriate and with less adverse effects.

CARLOS WAGNER PEREIRA JUNIOR - carloswpj@gmail.com

Poster Presentation - NMO, ADEM and CIS

96857 - COCAINE AS A TRIGGER OF ACUTE DEMYELINATION: A CASE REPORT TO HIGHLIGHT THE IMPORTANCE OF DRUG USE HISTORY IN DEMYELINATING DISEASES

Guilherme Diogo Silva / University of São Paulo; Guilherme Diogo Silva / University of São Paulo; Larissa Silva Teixeira / University of São Paulo; Lucas Bueno Feo / University of São Paulo; Caio Cesar Diniz Disserol / University of São Paulo; Paula Pinho / University of São Paulo; Carolina Rimkus / University of São Paulo; Samira Luisa dos Apóstolos-Pereira / University of São Paulo; Dagoberto Callegaro / University of São Paulo;

Case Presentation: a 25 years old male presented to our care due cognitive decline, behavioural change (aggressiveness and disinhibition) and seizures. Medical history was remarkable for frequent cocaine use. At that time, brain magnetic resonance imaging (MRI) showed large bilateral white matter lesions with T2 hypersignal and cerebrospinal fluid (CSF) demonstrated mild pleocytosis and negative oligoclonal bands. As infectious agents were ruled out on CSF testing and brain MRI was suggestive of a demyelinating event, patient received 5g of methylprednisolone and 5 sessions of plasmapheresis with significant clinical and radiological response. Although acute disseminated encephalomyelitis (ADEM) was our first hypothesis, patient medical history remarkable for cocaine use and, hence, exposure to levamisole, made us consider levamisole-induced leukoencephalopathy as a differential diagnosis. Nevertheless, no systemic findings associated with levamisole-induced leukoencephalopathy were present at that time. Anti-MOG IgG was not available for testing at our service. Patient was discharged with antiepileptic drugs (lacosamide and valproate), risperidone and prednisone with a tapering schedule. Discussion: Almost 70% of cocaine samples contain levamisole as an adulterant. Levamisole augments the immunologic response by activating macrophages, T cells, and increasing levels of interleukin-2, what can leads to a multifocal inflammatory leukoencephalopathy, usually ranging from days to weeks after ingestion. Brain MRI and CSF analysis may be similar from ADEM and, thus, medical history of exposure to cocaine is critical to make this diagnosis. Although levamisole-induced leukoencephalopathy is highly responsive from immunotherapy, differential diagnosis from ADEM is important as withdraw from levamisole exposure is necessary to prevent relapses. Final Comments: Drug history should be assessed in patients with acute demyelinating events as cocaine can be associated with ADEM-like episodes and withdraw is necessary to prevent relapses.

GUILHERME DIOGO SILVA - dr.guilhermediogo@gmail.com

Poster Presentation - NMO, ADEM and CIS

96243 - PSEUDOBULBAR AFFECT IN A PATIENT WITH NEUROMYELITIS OPTICA SPECTRUM DISORDER: CASE REPORT

Hendrick Henrique Fernandes Gramasco / Faculdade de Medicina de Botucatu/UNESP; Mayra Magalhães Silva / Faculdade de Medicina de Botucatu/UNESP; Lunizia Mattos Mariano / Faculdade de Medicina de Botucatu/UNESP; Omar Gurrola Arambula / Faculdade de Medicina de Botucatu/UNESP; Fernando Coronetti Gomes da Rocha / Faculdade de Medicina de Botucatu/UNESP;

Case presentation: Male patient reporting symptoms starting at 20 years old as frequent falls due to weakness of the left lower limb, developed right hemiparesis and dysarthria after 1 year, in addition to complaints of diplopia. After initial evaluation, the diagnosis of neuromyelitis optics spectrum disorder (NMOSD) anti-aquaporin 4 positive was made. Eleven years after the onset of symptoms, in addition to dysarthria, patient started complaining of dysphagia, hiccups and unmotivated laughter, associated with recurrent upper airway infection. On physical examination, bilateral palate paresis was noted. MRI demonstrated, two years before the start of the affective changes, several linear focal plates with hyperhydration and restriction to diffusion predominating in perivetricular white matter, diffuse lesions in the brain stem and in the left cerebellum. Discussion: Pseudobulbar affect (PBA) is associated with several neurodegenerative disorders and is characterized by unmotivated and stereotyped emotional outbursts, such as laughter or crying, out of proportion to the individual‘ s subjective emotional status. The pathophysiology of PBA comprise the liberation theory, written by Wilson in 1923, which describes an interruption of cortical inhibition on the core cells that coordinate the motor responses of laughter and crying. Other pathophysiological hypothesis also include serotonin and dopamine deficiency, excess glutamate and abnormalities of type 1 sigma receptors. In short, pathophysiology of PBA can be summarized as a dysfunction of the cortical-limbic-subcortical-thalamic-pontocerebellar complex, generally associated to lesions in the white matter of the brain stem and cerebellum, involving networks that modulate emotional expression. Final comments: The development of affective changes, especially unmotivated laughter and crying, should draw attention to patients with neurodegenerative diseases.

HENDRICK HENRIQUE FERNANDES GRAMASCO - gramasco.hendrick@gmail.com

Poster Presentation - NMO, ADEM and CIS

96253 - SEVERE SPHINCTER DYSFUNCTION AND NO MRI ALTERATION: CLINICAL-RADIOLOGICAL DISSOCIATION IN A PEDIATRIC MONEM CASE

IURY HÉLDER SANTOS DANTAS / HOSPITAL GERAL DE FORTALEZA; MARIANA BRAATZ KRUEGER / HOSPITAL GERAL DE FORTALEZA; LIANA SANTOS DE MELO COELHO / HOSPITAL GERAL DE FORTALEZA; JOSÉ ARTUR COSTA D□ALMEIDA / HOSPITAL GERAL DE FORTALEZA; GABRIELA JOCA MARTINS / HOSPITAL GERAL DE FORTALEZA; MILENA SALES PITOMBEIRA / HOSPITAL GERAL DE FORTALEZA; ADELINA MARIA FEITOSA GOMES / HOSPITAL GERAL DE FORTALEZA;

Case presentation: A 12-years-old girl presented in October 2019 to our pediatric neuroimmunology outpatient clinic with severe sphincter dysfunction (neurogenic bladder with urinary retention and uncontrolled bowel) started 10 months ago. She had a history of two episodes of severe acute encephalopathy in 2017 and 2018, the latter being extensively investigated during hospitalization in a reference pediatric hospital, considering as hypotheses: multiple sclerosis (MS) or neuromyelitis optica spectrum disorder (NMOSD). At that time, brain MRI demonstrated multiple signal changes without diffusion or reality restriction by means of contrast in all brain lobes and brainstem. In the absence of new lesion on brain MRI during follow-up, in addition to unremarkable infectious and inflammatory workup, including normal CSF (absent BOC) and negative AQP4-IgG (CBA method), the diagnosis of NMOSD/MS was ruled out. Because of the new sphincteric complaint a total spinal cord MRI was performed, which proved to be normal. Anti-myelin oligodendrocyte glycoprotein antibodies (MOG-IgG) was requested and came strongly positive (titer 1:1280). Treatment choice was monthly immunoglobulin associated with a low dose of oral corticosteroids and the patient is stable since. Discussion: The most common form of presentation of MONEM is as acute disseminated encephalomyelitis in children under seven years of age or as optic neuritis in older children and adults. Among the sphincter changes present in MONEM, the following stand out: urge incontinence in higher spinal cord injuries and neurogenic bladder in lower spinal cord injuries. In the reported case, after the 2018 event, the patient maintained urinary incontinence, progressing to fecal incontinence in the following 6 months. Final Comments: Sphincteric disorders even with mild or no imaging findings should raise suspicion to MONEM, especially when combined with ADEM phenotype. The presence of MOG-IgG is decisive to distinguish between clinical conditions in pediatric population and to guide therapeutic choices.

IURY HÉLDER SANTOS DANTAS - iuryhelder@hotmail.com

Poster Presentation - NMO, ADEM and CIS

96252 - PROFILE OF PATIENTS WITH NEUROMYELITIS OPTICA SPECTRUM DISORDERS UNDER RITUXIMAB TREATMENT IN A REFERENCE CENTER IN NORTHEAST BRAZIL.

Ivna Lacerda Pereira Nóbrega / Hospital Geral de Fortaleza; Milena Sales Pitombeira / Hospital Geral de Fortaleza; Iury Hélder Santos Dantas / Hospital Geral de Fortaleza; Igor Bessa Santiago / Hospital Geral de Fortaleza; Lucas Silvestre Mendes / Hospital Geral de Fortaleza; Patrícia Chagas Rocha D' Almeida / Hospital Geral de Fortaleza; Keyla Rejane Frutuoso de Morais / Hospital Geral de Fortaleza; Sara Câmara Tavares / Hospital Geral de Fortaleza; José Artur Costa D' Almeida / Hospital Geral de Fortaleza; Gabriela Joca Martins / Hospital Geral de Fortaleza;

Introduction: Neuromyelitis Optica Spectrum Disorder (NMOSD) is a severe inflammatory disease of the central nervous system which potentially leads to blindness and impaired walk. Effective therapy for relapse prevention is the main goal to avoid disability. Even though rituximab (RTX) has been widely used, data regarding accessibility and treatment protocols in Brazilian patients still limited. Objectives: To evaluate the profile of patients with NMOSD aquaporin-4 IgG (AQP4-IgG) seropositive under RTX treatment in a reference center in Northeast Brazil. Methods: A retrospective analyses of medical records was conducted between February and June 2020. Clinical features, year and reason for starting RTX, treatment protocol (dose and maintenance regime), disease duration, and EDSS before RTX were analysed. Results: From 10 patients included, 9 were female, the median age was 40.9 years (range 18.5 – 62.3). One treatment was started in 2016 followed by 1 in 2017, 2 in 2018, 4 in 2019, and 2 until June 2020. Prior RTX, median disease duration was 9.7 years (range 0.9-15.8) and median EDSS was 4.0 (0-8.5). In all patients, RTX was not the first therapy, been indicated in 8 because of failure with azathioprine and in 2 due to adverse effects with azathioprine and/or methotrexate (hepatotoxicity and gastrointestinal intolerance). Median time on RTX was 12 months (2-46) and considering the 6 patients with ≥ 12 months under treatment, the median interval between doses was 6 months with a regimen of only one infusion of 1000mg. Conclusions: RTX was initiated as second therapy in 100% of our sample while 60% presented an EDSS ≥ 4 pre-treatment. Although the number of patients under RTX treatment is progressively increasing, this profile may reflect the inaccessibility to high-efficacy treatment for patients with NMOSD in the health care system in Brazil and consequent accumulated disability.

IVNA LACERDA PEREIRA NÓBREGA - ivna_lacerda@hotmail.com

Poster Presentation - NMO, ADEM and CIS

93468 - TREATMENT OF NEUROMYELITIS OPTICA SPECTRUM DISORDER WITH RITUXIMAB, RETROSPECTIVE ANALYSIS OF 23 PATIENTS IN NORTHEAST BRAZIL

Mário Emílio Teixeira Dourado Jr / HUOL/UFRR; Mário Emílio Teixeira Dourado Júnior / HUOL/UFRN; Einstein Dantas de Aguiar Filho / HUOL/UFRN; Diego Maia Abrantes / HUOL/UFRN; Raphael Dantas Luz Peixoto / HUOL/UFRN; Alcileia Rodrigues Marques / HUOL/UFRN; Elayne Flávia Pereira Castro / HUOL/UFRN; Maíra Melo do Vale Lira / HUOL/UFRN;

Background: Neuromyelitis optica spectrum disorder (NMOSD) is a rare, autoimmune astrocytopathies characterized by predominant involvement of the optic nerves and spinal cord that can lead to substantial disability and even death. A multitude of treatments have been suggested, with several groups reporting promising results with rituximab (RTX), a chimeric monoclonal antibody specific for the CD20 B-lymphocyte surface antigen. Objective: to evaluate the efficacy of rituximab (RTX) in reduces the frequency of NMOSD relapses. Methods: Retrospective case series in an institutional referral center for multiple sclerosis, including 23 patients with relapsing NMOSD treated with RTX from 2011 to 2019. Results: 23 patients were analyzed, which 15 (65.21.6%) were NMOSD with AQP4-IgG and 5 (21.73%) were NMOSD without AQP4-IgG. Gender (Female), n=20 (86.95%). Age at NMOSD onset was mean of 33,22 (SD 14,29). The median duration of treatment with RTX was 47 months (range 6-100). The median number of retreatments was 2 (range 1-10). The mean (SD) number of relapse before RTX was 1.952 (0.9207), and the mean (SD) number of relapse after RTX 0.7619 (1.640) (p< 0,0001). 03 patients (13.4%) experienced infusion-related adverse effects. One patient died during the follow-up period (4.34%). The Median EDSS score was 5 (range 0-10) in february 2020. Conclusions: In this observational study we confirm RTX efficacy in preventing attacks in patients with NMOSD. Demographic and clinical characteristics of enrolled patients are in line with previous literature reports, showing a high prevalence of woman and that can lead to substantial disability and even death.

MÁRIO EMÍLIO TEIXEIRA DOURADO - medourado03@gmail.com

Poster Presentation - NMO, ADEM and CIS

96876 - CIEM MS RESEARCH CENTER PRACTICE GUIDELINE ON IMMUNIZATION IN MULTIPLE SCLEROSIS AND NEUROMYELITIS OPTICA SPECTRUM DISORDER IN BRAZIL

Bárbara Akemy / CIEM MS Research Center, Federal University of Minas Gerais Medical School, Belo Horizonte, Brazil ; Juliana Santiago Amaral / CIEM MS Research Center, Federal University of Minas Gerais Medical School, Belo Horizonte, Brazil; Paulo P. Christo / CIEM MS Research Center, Federal University of Minas Gerais Medical School, Belo Horizonte, Brazil; Natália C. Talim / CIEM MS Research Center, Federal University of Minas Gerais Medical School, Belo Horizonte, Brazil; Emerson de Paula Santos / CIEM MS Research Center, Federal University of Minas Gerais Medical School, Belo Horizonte, Brazil; Marco A Lana-Peixoto / CIEM MS Research Center, Federal University of Minas Gerais Medical School, Belo Horizonte, Brazil;

Introduction:Immunization has been one of the most successful measures adopted in public health to prevent infectious disease. Despite the many benefits of vaccines, there remain doubts regarding their effects in multiple sclerosis (MS) and neuromyelitis optica spectrum disorder (NMOSD) patients. Concerns have been raised about increased risk of infection or decreased effectiveness of immunization in immunosuppressed patients. The National Immunization Program (PNI) of the Brazilian Health Ministry established an immunization schedule in the country. We present a practice guideline on immunization for MS/NMOSD patients according to PNI schedule. Objective:To develop evidence-based recommendations on immunization for MS and NMOSD patients. Methodology:We systematically searched MEDLINE (January 2011 March 2020) for randomized controlled trials and nonrandomized studies and reviews on immunization in MS or NMOSD to analyze evidences of increased risk of MS/NMOSD development or exacerbation, as well as safety and efficacy of vaccines in patients in use of immunomodulatory or immunosuppressive agents. We built a table listing vaccines recommended by the PNI with their degree of safety and efficacy in MS/NMOSD; their contraindications or restricted use and required time interval after drug withdrawal. Results:The Practice Guideline is suited to the patient treatment status. All PNI recommended vaccines are considered safe for patients who are not on treatment, except in case of yellow fever vaccine that is only recommended during an epidemic. There are no special recommendation for MS patients in use of glatiramer acetate, Interferons, dimethyl fumarate and natalizumab. Live attenuated virus vaccines should be used after a time interval no shorter than 6 months following withdrawal of alemtuzumab, fingolimod, ocrelizumab and teriflunomide. Conclusions:Neurologists should check the vaccination status of their patients with MS or NMOSD. This Practice Guideline may be used as a tool to instruct MS/NMOSD patients through the vaccination schedule of the Brazilian PNI.

NATÁLIA CIRINO TALIM MENEZES - talim.fono@gmail.com

Poster Presentation - NMO, ADEM and CIS

96884 - PRIMARY CNS LYMPHOMA WITH AREA POSTREMA SYNDROME, NARCOLEPSY AND ENCEPHALOPATHY MIMICKING NEUROMYELITIS OPTICA SPECTRUM DISORDER

Ana Paula Costa / CIEM MS Research Center, Federal University of Minas Gerais Medical School, Belo Horizonte, Brazil ; Paulo P. Christo / CIEM MS Research Center, Federal University of Minas Gerais Medical School, Belo Horizonte, Brazil; Juliana Santiago Amaral / CIEM MS Research Center, Federal University of Minas Gerais Medical School, Belo Horizonte, Brazil; Clara C. Pinhati / CIEM MS Research Center, Federal University of Minas Gerais Medical School, Belo Horizonte, Brazil; Antonio B. Campos / CIEM MS Research Center, Federal University of Minas Gerais Medical School, Belo Horizonte, Brazil; Natália C. Talim / CIEM MS Research Center, Federal University of Minas Gerais Medical School, Belo Horizonte, Brazil; Daniel V. Vasconcelos / Divisions of Neuro-Ophthalmology, Uveitis, and Retina. Federal University of Minas Gerais Medical School, Belo Horizonte, Brazil; Márcio Nehemy / Divisions of Neuro-Ophthalmology, Uveitis, and Retina. Federal University of Minas Gerais Medical School, Belo Horizonte, Brazil; Marco A. Lana-Peixoto / CIEM MS Research Center, Federal University of Minas Gerais Medical School, Belo Horizonte, Brazil;

Introduction-Primary CNS lymphoma (PCNSL) accounts for 3% of the brain neoplasias and may produce a variety of clinical and MRI manifestations. Vitreous retinal involvement occurs in about 25% of the cases. We report on a patient who developed encephalopathy, decreased vision, paraparesis, incoercible nausea and vomiting, and narcolepsy with typical neuromyelitis optica spectrum disorder (NMOSD) MRI lesions. Case report- A 69-YO white female with diabetes mellitus and hypothyroidism developed mental confusion, bilateral blurred vision, paraparesis, ataxia and dysarthria, two weeks after gastroenteritis. A brain MRI showed a large tumefactive enhancing lesion in the right hemisphere and small lesions in the right frontal and temporal lobes. She was thought to have ADEM and was given IV pulses of methylprednisolone with partial recovery. Five months later she was referred for neuro-ophthalmological examination due to relapsing symptoms. Visual acuity was 20/200 in the right eye and 20/50 in left eye, and there were bilateral vitreous haze with creamy lesions involving the deep retina, paraparesis and gait ataxia. A comprehensive laboratory work-up was negative for infectious diseases. Serum AQP-4 IgG was negative. CSF analysis revealed increased number of cells, increased protein content, and presence of oligoclonal bands. Vitreous biopsy showed vitreous retinal lymphoma. She was treated with intravitreous methotrexate and rituximab. Two months later she started with incoercible vomiting, and severe narcolepsy. A new brain MRI showed enlarged hemispheric lesions and lesions in area postrema and hypothalamus. Spinal cord MRI and PET-CT were negative. MR spectroscopy showed increased Cho/NAA ratio and increased peak of lactate. Discussion-This patient presents primary CNS with vitreous retinal involvement as shown by vitreous biopsy and brain MRS. However, she developed area postrema syndrome and narcolepsy in association with imaging features which are typically found in NMOSD. Conclusion-Neurologists should include PCNSL in the differential diagnosis of NMOSD

NATÁLIA CIRINO TALIM MENEZES - talim.fono@gmail.com

Poster Presentation - NMO, ADEM and CIS

96880 - THE ASSOCIATION OF CANCER AND NEUROMYELITIS OPTICA SPECTRUM DISORDER

Emerson de Paula / CIEM MS Research Center, Federal University of Minas Gerais Medical School, Belo Horizonte, Brazil ; Juliana Santiago Amaral / CIEM MS Research Center, Federal University of Minas Gerais Medical School, Belo Horizonte, Brazil; Natália C. Talim / CIEM MS Research Center, Federal University of Minas Gerais Medical School, Belo Horizonte, Brazil; Paulo Christo / CIEM MS Research Center, Federal University of Minas Gerais Medical School, Belo Horizonte, Brazil; Felipe Brunheroto / CIEM MS Research Center, Federal University of Minas Gerais Medical School, Belo Horizonte, Brazil; Marco A. Lana-Peixoto / CIEM MS Research Center, Federal University of Minas Gerais Medical School, Belo Horizonte, Brazil;

Introduction: Neuromyelitis optica spectrum disorder (NMOSD) is an inflammatory disease of the central nervous system related to aquaporin-4 autoimmunity. NMOSD may occur in association with other immune-mediated conditions or the presence of a variety of serum autoantibodies. The association of NMOSD with cancer is rare and may result from response to antigens produced by cancer cells. Objective: To report the frequency, the demographic and clinical features of patients with the association of NMOSD and cancer. Methods: We retrospectively selected patients with NMOSD and cancer seen at CIEM MS Research Center. Data assessment from medical records included age at NMOSD onset, sex, race, presenting symptom, disease duration, EDSS at last visit, ARR, AQP4-IgG seropositivity, MRI and CSF findings, type of cancer, and the interval between NMOSD onset and cancer diagnosis. We used the 2015 International Panel for NMOSD diagnosis criteria and the Euronetwork criteria for diagnosis of paraneoplastic syndrome (PNS). Results: Out of 234 patients who met the 2015 IPND criteria six (2.6%) presented NMOSD in association with cancer. Patients were 5 women and 1 male, with median age at of 54 years at NMOSD onset. Myelitis was the presenting symptom in 3, optic neuritis in 2, area postrema in 2, and brainstem syndrome in 2. In 4 patients cancer diagnosis antedated NMOSD onset (3-9 years interval); in one cancer developed 3 years following NMOSD onset, and in one they occurred simultaneously. The median EDSS at last visit was 8.0. Cancer affected the breast in 2 patients, the uterus cervix in 2, the bladder in 1, whereas 1 patient had multiple myeloma. Three patients tested positive for serum AQP4-IgG. Only 1 (16.6%) patient met the Euronetwork criteria for PNS. Conclusion: The association of NMOSD and cancer is very rare, and only exceptionally NMOSD meets the Euronetwork criteria for PNS.

NATÁLIA CIRINO TALIM MENEZES - talim.fono@gmail.com

Poster Presentation - NMO, ADEM and CIS

96874 - THE DISTINCT CLINICAL CHARACTERISTICS OF PEDIATRIC-ONSET NEUROMYELITIS OPTICA SPECTRUM DISORDER. A SINGLE-CENTER STUDY.

Luciana M. Rocha / CIEM MS Research Center, Federal University of Minas Gerais Medical School, Belo Horizonte, Brazil ; Natália C. Talim / CIEM MS Research Center, Federal University of Minas Gerais Medical School, Belo Horizonte, Brazil; Juliana Santiago Amaral / CIEM MS Research Center, Federal University of Minas Gerais Medical School, Belo Horizonte, Brazil; Paulo P. Christo / CIEM MS Research Center, Federal University of Minas Gerais Medical School, Belo Horizonte, Brazil; Marco A. Lana-Peixoto / CIEM MS Research Center, Federal University of Minas Gerais Medical School, Belo Horizonte, Brazil;

Introduction: Few series of pediatric-onset neuromyelitis optica spectrum disorder (NMOSD) have been published and most of them are multicenter studies. Here, we describe a series of pediatric-onset NMOSD patients seen at CIEM MS Center. We compare their demographic and clinical characteristics with those of patients with adult-onset NMOSD. Objectives:To report the frequency and clinical features of pediatric-onset NMOSD as compared to those of adult-onset NMOSD. Methods:The medical records of patients who met 2015 International Diagnostic Criteria for NMOSD seen at CIEM from October 2000 to March 2018 were selected. Demographic and clinical characteristics of patients with age 18 or younger at disease onset were compared with those of adult-onset NMOSD. Results: Out of 234 patients, 38 (16.2%) were children with median age at onset of 13.5 years. There were 31 females and 21 non-Caucasians. Presenting symptoms comprised transverse myelitis (TM) in 17, optic neuritis (ON) in 15, brainstem syndrome (BSS) in 12, area postrema syndrome (APS) in 9, cerebral syndrome (CS) in 3, and diencephalic syndrome (DS) in 2 children. Five children had encephalopathy. The median disease duration was 9.5 years; the median EDSS 5.0, and the median ARR 0.63. All children developed relapsing course and 21 (60%) showed AQP4-IgG seropositivity. Out of 196 adult-onset NMOSD, there were 162 females and 118 non-Caucasians. Presenting symptoms were TM in 105, ON in 88, APS in 39, BSS in 28, DS in 3, and CS in 2 patients. The median disease duration was 7.8 years, median EDSS 5.5 and median ARR 0.38. The disease was relapsing in 176 patients, and 121 patients (72%) tested positive for AQP4-IgG. Conclusions:As compared to adult NMOSD, pediatric-onset NMOSD is more fequently relapsing (p 0.05), has a higher ARR (p 0.008), and more frequently present encephalopathy (p 0.031) and BSS (0.017) at disease onset.

NATÁLIA CIRINO TALIM MENEZES - talim.fono@gmail.com

Poster Presentation - NMO, ADEM and CIS

93427 - EPSTEIN BARR VIRUS (EBV) ENCEPHALO-RADICULOPATHY: A CASE REPORT

Raquel Paiva Portugal / Hospital das Clínicas da USP de Ribeirão Preto; Rodrigo Siqueira Soares Frezatti / Hospital das Clínicas da USP de Ribeirão Preto; Pedro José Tomaselli / Hospital das Clínicas da USP de Ribeirão Preto; André Cleriston José dos Santos / Hospital das Clínicas da USP de Ribeirão Preto; Tomásia Henrique Oliveira de Holanda Monteiro / Hospital das Clínicas da USP de Ribeirão Preto; Tissiana Marques de Haes / Hospital das Clínicas da USP de Ribeirão Preto; Antônio Carlos dos Santos / Hospital das Clínicas da USP de Ribeirão Preto; Wilson Marques Junior / Hospital das Clínicas da USP de Ribeirão Preto; Cláudia Ferreira da Rosa Sobreira / Hospital das Clínicas da USP de Ribeirão Preto;

A previously healthy 37-year-old man was referred to our service to investigate an acute encephalitis 1-month prior characterized by fever, headache, lethargy and seizure that evolved to a comatose state, from which he awoke 40 days later without any specific treatment. Brain MRI showed a T2 basal ganglia hyperintensity and diffuse white matter involvement with T2/FLAIR hyperintensity. He was admitted in our institution 80 days after onset, presenting bradypsychism, tetraparesis and global arreflex. A new brain MRI revealed a small vessel disease pattern, with a lush dilatation in perivascular space (DPVS). Exams showed a positive IgM and IgG ELISA for EBV and negative serology for other infections. Electromyography revealed a multiradiculopathy pattern in lumbosacral segment bilaterally (L2-S1). The CSF study revealed normal results, with negative tests for all infectious agents, as well as a negative PCR for EBV. Assuming the diagnosis of EBV-related encephaloradiculopathy, despite the long time since the beginning of symptoms, and considering the severe condition of this patient, was started on acyclovir and corticosteroids. EBV infection can cause a wide spectrum of neurological manifestations. This virus has a well-described tropism for basal ganglia, but other conditions can also cause this involvement. The evidence of EBV infection in sera and the absence of another plausible hypothesis, in addition to the abnormality of the MRI signal, despite the negative PCR in the CSF, strongly suggests the diagnosis of EBV-related encephaloradiculopathy. It is possible that PCR for EBV in the CSF was negative due to the late evolution; and the detection of antibodies by ELISA in the CSF would be more appropriate, but it was not available. This patient had a severe manifestation with a partial recovery without treatment, but he remained with disabling symptoms, with a poor improvement after treatment with acyclovir and corticosteroids.

RAQUEL PAIVA PORTUGAL - quelportugal@gmail.com

Poster Presentation - NMO, ADEM and CIS

93495 - CHARACTERISTICS OF ACQUIRED DEMYELINATING SYNDROMES IN THE NORTHEAST OF BRAZIL

vanessa cristina fragoso cassiano vanessa fragoso / Hospital da Restauraçao; Bruna Klein da Costa / ; Douglas Kazutoshi Sato / ; Adélia Maria Henrique Souza / ; Antonio Francisco Araujo Netto / ; Maria Lúcia Brito Ferreira / ;

Introduction: Acquired demyelinating syndromes (ADS) are the initial first symptoms of central nervous system (CNS) inflammatory disorders in pediatric patients. They might present as optic neuritis, transverse myelitis, acute disseminated encephalomyelitis (ADEM) or other isolated or multifocal demyelinating syndromes. According to clinical findings, neuroimaging and the appearance of serum biomarkers - anti-aquaporin-4 (AQP4-Ab) and anti-myelin oligodendrocyte glycoprotein (MOG-Ab), these syndromes might represent the first presentation of chronic CNS disorders such as Multiple Sclerosis, Neuromyelitis Optica Spectrum Disorders and MOG-Ab disease.Objectives: Describe the demographic, clinical, serologic and neuroimaging characteristics of patients with ADS of a reference center in the Northeast of Brazil. Methods: Retrospective review of medical records of pediatric patients seen between 2018 to 2020 at the Restauração Hospital in Recife, Brazil. Serologic testing was performed using cell-based assays at Pontifical Catholic University of Rio Grande do Sul, Brazil.Results: We identified 12 patients with ADS.They were mostly female (7:5), with ages ranging from 8 to 14 years. Most patients were older than 10 years (75%). Optic neuritis was the most frequent phenotype seen in 8/12 patients, followed by myelitis in 3/12 and brainstem syndrome in one patient. Nine of 12 were tested for MOG-Ab and AQP4-Ab,4 were positive for antiMOG-Ab and, one for AQP4-Ab and 4 were double negative. None patient was positive for both antibodies. All MOG-Ab positive patients presented with optic neuritis. Brain and/or spinal magnetic resonance imaging showed changes lesions in 75% of cases. Myelitis was extensive. Optic nerve enhancement was the most relevant neuroimaging finding observed in 62.5%. Myelitis was more frequently longitudinally extensive.Conclusions:The most frequently observed ADS in our pediatric patients was optic neuritis, followed by myelitis. Most patients had MRI abnormalities and tested positive for specific autoantibodies. We also observed female predominance probably due to the minority of patients younger than 10 years.

VANESSA CRISTINA FRAGOSO CASSIANO - vanessacfragosoc@gmail.com