

THESES

EVALUATION OF THE CHILDREN'S MATHEMATICS ABILITIES FROM FINAL ELEMENTARY CYCLES OF PUBLIC AND PRIVATE SCHOOLS IN SÃO JOSÉ DO RIO PRETO SP, BRAZIL (ABSTRACT)*. **THESIS. SÃO JOSÉ DO RIO PRETO, 2003.**

*JOSÉ ALEXANDRE BASTOS***

Man has been developing the ability of counting since pre-historic times. Several peoples contributed to the development of the process of calculating, among them, the hindus with the invention of the decimal system. Some difficulties in learning mathematics are very frequent. Although the incidence of developmental dyscalculia is similar to dyslexia and attention deficit disorder (ADD) 3% to 6%, neurologists have been neglecting its study.

This study aimed at proposing a protocol to evaluate the children's mathematics abilities as well as to correlate them with their socioeconomic and cultural status. All of them were from the 2nd final terms of elementary school cycles of private (A) and public /local schools(B, C, D and E). A modified protocol of Boller and Grafman was used to test 2773 children's mathematics abilities, and the results were correlated with age, sex, school level, and to their parents' socioeconomic status (profession/educational level).

Children of 10 to 11 years old, both sexes, showed the best results. The girls were better than the boys $p < 0.05$. The schools A and B had similar results; how-

ever, it was worse in public schools according to the neighborhood's quality of life, and a growing worse was observed in relation to schools of the outskirts $p = < 0.05$. Children's abilities were influenced by their parents' education $p = < 0.05$. The children's misunderstanding of their parents' educational level showed a high negative influence on them.

This protocol was useful to evaluate large population, easy to be applied, and above all, we have got aware of the necessity of some school approaches specially on children considered at risk; that is, children from schools of poor neighborhood who do not know even their parents' educational level. Cognitive abilities should be evaluated since nursery and kindergarten schools. In private schools, the protocol revealed that although the children had no negative influence, they also presented bad math results. These difficulties can be overcome after some interdisciplinary approaches for diagnosis and treatment provided by effective programs.

KEY WORDS: mathematics abilities, elementary cycles; public and private schools.

*Avaliação das habilidades em matemática nas crianças no final do 2º ciclo do Ensino Fundamental em escolas da rede pública e privada de São José do Rio Preto (Resumo). Tese de Doutorado, Faculdade de Medicina de São José do Rio Preto- FAMERP (Área: Medicina Interna). Orientador: Waldir Antonio Tognola.

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METABOLIC PROFILE ANALYSIS AND ANTHROPOMETRIC EVALUATION IN PATIENTS WITH ISCHEMIC STROKE, DIABETIC AND NON-DIABETIC (ABSTRACT)*. **DISSERTATION. JOÃO PESSOA, 2003.**

*MAURUS MARQUES DE ALMEIDA HOLANDA***

Strokes are one of the most common causes of mortality and long term severe disability. Its incidence increases with age and is somewhat higher in men than in woman and in blacks than in whites. Risk factors for stroke include age, gender, diabetes mellitus (DM), systolic and diastolic hypertension, impaired glucose tolerance, hyperuricemia, smoking, family history of ischemic heart disease (IHD), history of hyperlipidemia, Lp(a), total cholesterol LDL and HDL-cholesterol, triglyceride, apoA-I, B and many others. Despite its importance as a leading cause of disability and death, the

incidence of stroke has decreased in recent decades, largely because of improved treatment of the modified risk factors.

The aim of this study was to evaluate Lp(a), total cholesterol, HDL, LDL, VLDL cholesterol, triglycerides, apo A and apo B100, uric acid, fibrinogen, T4 and TSH, glycaemic and insulin plasmatic concentrations, obesity and hypertension in patients affected by acute ischemic stroke.

In this group of patients, we have compared the variables between type 2 diabetic patients and non-

diabetic patients. We evaluate in this study a total of 60 patients, divided into two groups: 34 non-diabetic patients (22 males and 12 females; mean age 66.71 ± 10.83 years) and a group of 26 type 2 diabetic subjects (15 males and 11 females; mean age 66.35 ± 9.92 years).

A relationship existed between obesity, hypertension and the groups. The waist-hip ratio (WHR) was similar comparing the groups. The mean of lipids concentration did not significantly differ between type 2 diabetic patients and non-diabetic subjects. The distribution of Lp(a) levels was highly skewed towards the higher levels in both groups, being over 30 mg/dl in 50%. Lp(a) concentration was positively correlated with abdominal adiposity, using WHR ($p < 0.05$). No asso-

ciation was found between Lp(a) and sex, age, other lipidic parameters and the presence of stroke.

Our results show that serum Lp(a) levels are increased in patients with cerebrovascular disease but there were no significant differences between diabetic and non-diabetic patients, which indicates that elevated Lp(a) levels are specifically associated with ischemic stroke but not with type 2 DM. Stroke places a tremendous burden on health resources throughout the world. Improved detection and modification of risk factors could reduce the impact of this disease, and the hypertension with DM, when together, needs to be hardy controlled.

KEY WORDS: stroke, diabetes mellitus, cerebral thrombosis, arterial hypertension, risk factors.

*Análise do perfil metabólico e avaliação antropométrica em pacientes com acidente vascular cerebral isquêmico, diabéticos e não diabéticos (Resumo). Dissertação de Mestrado, Universidade Federal da Paraíba (Área: Nutrição Clínica). Orientadora: Rosália Gouveia Filizola.

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CLINICAL AND IMMUNOLOGICAL ASPECTS OF NEUROLOGICAL DISEASES ASSOCIATED TO HTLV-I (ABSTRACT)*. DISSERTATION. SALVADOR, 2003.

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Human T-lymphotropic virus type I (HTLV-I) is the etiological agent of HTLV-I Associated Myelopathy/Tropical Spastic Paraparesis (HAM/TSP), Adult T Cell Leukemia (ATL), and other systemic diseases mediated by the immune response. The HTLV-I infection is endemic in several regions of the world and also in Brazil, especially in the States of Bahia, Pernambuco and Pará.

The objective of the present study was to identify clinical and immunological markers associated with occurrence and severity of HAM/TSP.

A cross-sectional descriptive clinical and immunological study was performed including 237 HTLV-I infected individuals. These patients were assessed using standardized questionnaires and neurological exam. They were classified according to two neurological scales: Expanded Disability Status Scale (EDSS) and Osame's Motor Disability Score (OMDS).

Thirty-seven patients had an EDSS ≥ 3 and OMDS ≥ 1 . There was a direct correlation between the degree of neurological disability assessed by OMDS and EDSS ($r_s = 0.857$; $p < 0.001$). There was also a direct correlation between the time of the initial signs of HAM/TSP and the degree of neurological disability assessed by OMDS ($r_s = 0.406$; $p = 0.014$) and EDSS ($r_s = 0.511$; $p = 0.001$).

A marked spontaneous proliferation was observed in peripheral blood mononuclear cells (PBMC) from HAM/TSP patients ($n=9$) as compared with HTLV-I asymptomatic carriers ($n=11$), $p=0.006$; Mann-Whitney *U* test. Higher levels of interferon (IFN)- γ were detected in unstimulated PBMC from HAM/TSP patients ($n=21$) as compared with asymptomatic HTLV-I positive individuals ($n=38$), $p < 0.0001$; Mann-Whitney *U* test.

No correlation was observed between pro-inflammatory cytokine levels and neurological disability or time of HAM/TSP onset. There was a direct correlation between IFN- γ and interleukin (IL)-5 levels ($r_s = 0.560$; $p < 0.05$) as well as between tumor necrosis factor (TNF)- α and IL-10 levels ($r_s = 0.563$; $p < 0.05$).

The data of the present study show the validity of the neurological scales (OMDS and EDSS) to classify the degree of neurological disability in HTLV-I carriers, suggest the progressive behavior of HAM/TSP, and show that IFN- γ in PBMC supernatants are markers of HAM/TSP and may play a role in the immunopathogenesis of the disease.

KEY WORDS: human T-lymphotropic virus 1, nervous system diseases, cytokines.

*Aspectos clínicos e imunológicos de doenças neurológicas associadas ao HTLV-I (Resumo). Dissertação de Mestrado, Faculdade de Medicina da Universidade Federal da Bahia (Área: Imunologia Clínica). Orientadora: Amélia Ribeiro de Jesus.

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FUNCTIONAL ASSESSMENT OF PATIENTS WITH AIDS (ABSTRACT)*. DISSERTATION. CURITIBA, 2003.

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Currently, with the advance achieved in the treatment of AIDS and an increase in survival rates, this illness is seen as chronic. The increase in survival rates is associated with the physical disability that occurs as a result of the illness, and can compromise the functional independence of the patients. Functional disability is a key to understanding the consequences of the disease and to defining the need for providing services.

The purpose of this study is to register and to describe the degree and types of disability seen in persons affected by AIDS, as well as to associate the inability with immunological and clinical data.

The study took place at Hospital de Clínicas of the Federal University of Paraná, where 120 inpatients diagnosed to be with AIDS were evaluated in the period of May/2000 July/2002. Each patient was evaluated only once. The functional evaluation consisted of an interview with the patient, a retrospective analysis of the hospital records, of a physical examination, and the application of scales that measures physical ability – Karnofsky and modified Rankin Scale – and functional ability, Functional Independence Measure (FIM) and Barthel Index. During the interview, the patients were questioned about the existence of disabilities, their beginning and relationship with other factors. The physical examination consists of the evaluation of muscular strength.

One hundred and two patients (85%) reported impaired physical activity and 70% complained of various degrees of weakness. Half of the population referred to the physical effort required for the performance of all their activities; 67% do not work and 44% gave up their jobs for reasons related to the infection; the muscle strength was altered in 43% and 46% com-

plained about disabling neurological involvement. Based on Karnofsky's scale, the average was 70% (± 0.19), median 80%. Eighty percent (80%) was the most frequent ranking, which was found in 63 (52%) of them. According with Rankin's modified scale, 33 (28%) patients were considered independent, 72 (60%) partially dependents and 15 (12%) dependents. In accordance with the Barthel index, 67 (56%) were considered independent, 41 (34%) partially dependent; 12 (10%) were dependent. According with the FIM scale, 49 (58%) were considered independent and 36 (42%) dependent. The items most often requiring assistance were stair climbing, walking and transfers, which were the items that called for a greater effort to be performed. There was a statistical correlation between the inability measured by the scales and the higher rates of viral load (log) c/ml, lower rates of CD4+/ μ l counts and CD4+/CD8+. There was also a significant difference between inability and the greater number of months since AIDS had been diagnosed, the involvement of more than one set of systems in the definition of AIDS, involvement of the nervous system in the cause of hospitalization, muscle strength alteration, complaints of neurological involvement, complaints of weakness and with being unemployed.

We found a significant degree of inability in patients hospitalized with AIDS, which means that it is important to focus attention on preventing and/or treating in order to keep the patients at the independence level for as long as possible, thus ensuring for them a better quality of life.

KEY WORDS: HIV infection, AIDS, functional independence, disability .

*Avaliação funcional em pacientes portadores de AIDS (Resumo). Dissertação de Mestrado, Universidade Federal do Paraná, UFPR (Área: Medicina Interna). Orientador: Sérgio Monteiro de Almeida.

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