

THESES

DISTURBANCES OF SPEECH AND LANGUAGE IN SUBCORTICAL LESIONS (ABSTRACT)*. THESIS. SÃO PAULO, 1999.

MÁRCIA RADANOVIC**

Interest in the function of subcortical structures in cognitive function has grown in the last decades. Such interest has increased after the advent of modern innovations in radiology techniques, which provide a better visualization of subcortical lesions, like computerized tomography (CT) and magnetic resonance imaging (MRI). Cortical blood flow and metabolism studies also brought a better understanding of diaschisis mechanisms *in vivo* and improved our knowledge about the pathophysiology of subcortical lesions. The purpose of this study was to identify language and/or speech alterations in patients with exclusively subcortical lesions and to establish a profile of such alterations. The author compared the profiles obtained from thalamic and non-thalamic lesions, trying to define some pathophysiologic mechanisms subjacent to the lesions.

To achieve this purpose, the author studied a group of 16 patients (9 patients with basal ganglia and adjacent white matter pathways lesions and 7 patients with thalamic lesions), chosen on the basis of their CT scan findings, selected from the Emergency Room of Hospital das Clínicas of the University of São Paulo School of Medicine (USP) and Hospital Universitário (USP). All patients were submitted to CT scan in the acute stage of illness, 13 patients were submitted to MRI and 12 patients were submitted to single photon emission computerized tomography (SPECT), in order to evaluate cortical blood flow. Patients were also submitted to language evaluation, using the Boston Diagnostic Aphasia Examination, Boston Naming and Token Test. Seventeen normal subjects were evaluated by the same language batteries as a control group.

Articulatory and motor disturbances predominated in the non-thalamic group, and language alterations were poor (only one third of the patients showed some language disturbance). There was no characteristic profile in this group.

In the thalamic group, however, there was a higher incidence of language disabilities, specially naming disturbances (5 cases) and comprehension disturbances (4 cases). Articulatory disabilities were found in only one patient. There was a high prevalence of cortical flow disturbances in these patients, compromising classical cortical language areas (in the frontal and temporal lobes), making it difficult to exclude cortical dysfunction as a contributing factor to explain the alterations.

In the thalamic aphasias, the author also concludes about the possibility of verbal memory and attentional mechanisms disturbances impairing primary language processing; such aspects deserve future studies.

KEYWORDS: thalamus lesions, basal ganglia lesions, speech disturbances, language disturbances.

*Distúrbios de fala e linguagem secundários a lesão subcortical (Resumo). Tese de Doutorado, Faculdade de Medicina da Universidade de São Paulo (Área: Neurologia). Orientador: Milberto Scaff.

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STUDY OF THE CORRELATION OF BRAINSTEM AUDITORY EVOKED POTENTIALS AND MAGNETIC RESONANCE IMAGING IN CHILDREN WITH SPASTIC CEREBRAL PALSY (ABSTRACT)*. THESIS. SÃO PAULO, 1999.

LISETE PESSOA DE OLIVEIRA FOBE**

Central auditory evaluation in 21 children with cerebral palsy was done with brainstem auditory evoked potentials (BAEP) and correlated with brain magnetic resonance imaging (MRI) findings; 12 boys and 9 girls between 5 and 12 years old were studied. All children had follow-up at the Institute of Orthopedics and Traumatology of Hospital das Clínicas da Faculdade de Medicina da Universidade de São Paulo (HC-FMUSP). The control group was done with 17 children, 10 boys and 7 girls (mean age 8.06 years, SD 2.27 years).

The BAEP abnormalities were: decrease of latency of wave V; decrease of latency III-V and I-V intervals at the right side.

All patients had MRI supratentorial abnormalities and 11 had brainstem atrophy. The MRI pathologic findings were: ventricular enlargement (n=17 or 80.95%), cortical/subcortical atrophy (n=15 or 71.42%), left

brainstem atrophy (n=11 or 52.38%), periventricular leukomalacia (n=10 or 47.61%), infarction in the left middle cerebral artery territory (n=6 or 28.57%), and malformations such as schizencephaly and colpocephaly (n=5 or 23.80%).

The findings of the decrease latencies in children with cerebral palsy suggest the contribution of decussating auditory fibers at the lower and upper pons and midbrain, the lack of homogeneity of the surrounding volume of the conductor fibers and the presence of several concurrently active potential generators sources, should be facilitating mechanisms for the nervous input to brainstem.

KEYWORDS: cerebral palsy, brainstem auditory evoked potentials, magnetic resonance imaging.

*Estudo da correlação entre potencial evocado auditivo do tronco cerebral e ressonância magnética de crânio em crianças com paralisia cerebral espástica (Resumo). Tese de Doutorado, Faculdade de Medicina da Universidade de São Paulo (Área: Otorrinolaringologia). Orientador: Ricardo Ferreira Bento.

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MESOSCOPY AND SCANNING ELECTRON MICROSCOPY OF THE TRABECULAR PROJECTIONS IN THE SUPERIOR SAGITTAL SINUS (ABSTRACT)*. THESIS. BOTUCATU, 1999.

*SIDNEI PETRONI***

The trabecular projections in the superior sagittal sinus were both classified and quantified depending on their presentation in types and subtypes, as well in thirds, portions and antimeres, according to their location.

The horizontal and vertical ones address the laminar blood flow, while the valvar type both guide the blood flow and protect the ostium of opening of the superior cerebral veins that empty in the superior sagittal sinus, that has been described as without valves.

According to a schematic model, it was observed that the trabecular projections of the valvar type presented a higher incidence than either the horizontal and vertical types and that all the types prevailed in the central third, the longest extension of the sinus.

There was a preponderance of simple subtype in the horizontal type over the ramified and reticular subtypes, while in the vertical type, the sagittal, parasagittal and unilateral subtypes presented very close values.

In the valvar type, the trabecular projections localized in the inferior portion of the lateral wall of sinus, prevailed over the projections presented at the superior portion of the wall.

Concerning the distribution in the sides of the sinus, the trabecular projections of horizontal and vertical types prevailed in the left side, a place where it presents its larger deviation, while the valvar type had almost the same distribution on both sides, considering that the superior cerebral veins present only small variations.

Analyzing the distribution of the superior sagittal sinus and the straight sinus in the confluence of the sinuses, it can be verified that the single or simple confluence presented a lesser incidence when compared with the sum of the forked types, and that the right transverse sinus presents a larger lumen, frequently receiving the blood from the superior sagittal sinus, while the straight sinus incline towards left and continues as the left transverse sinus.

KEY WORDS: dura mater, superior sagittal sinus, trabecular projections.

* Mesoscopia e microscopia eletrônica de varredura das projeções trabeculares no interior do seio sagital superior (Resumo). Tese de Doutorado, Instituto de Biociências da Universidade Estadual Paulista (Área: Anatomia). Orientador: Oisenyl José Tãmega.

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MORPHOLOGICAL CHANGES IN THE LATERAL VENTRICLES CHOROID PLEXUS OF RATS (*RATTUS NORVEGICUS*) SUBMITTED TO THE EXPERIMENTAL CHRONIC ALCOHOLISM (ABSTRACT)*. DISSERTATION. BOTUCATU, 1996.

*LUÍS FERNANDO TIRAPELLI ***

Alcoholism is a big social problem. For this reason many searchers are studying this subject in different parts of the world. The aim of this study is to identify the possible morphological changes in the choroid plexus of rats submitted to the experimental chronic alcoholism.

In this search sixty adult rats were used. The animals were arranged in three groups: 1) Control: received tape water in its liquid diet; 2) Alcoholic: received sugar cane brandy 30^o G.L. during 300 days; 3) Abstinent: received sugar cane brandy 30^o G.L. during 240 days. After 240 days these animals were gradually submitted to less concentrated alcohol dose until the tape water to be its liquid diet again. The sacrifice was performed after 60, 120, 180, 240 and 300 treatment days.

Choroid epithelium hipertrophy was observed at light microscopy level. Ultrastructural changes like swelling and number increase of the Golgi complex; enlargement of the granular endoplasmatic reticulum cisternae as well as the intercellular space, basal complex infolding and connective tissue were observed. Finally, vesicles were observed throughout cytoplasm. In the other hand the abstinent group showed significant regression of the changes above cited.

KEY WORDS: alcoholism, rat, choroid plexus.

*Alterações morfológicas dos plexos coróides dos ventrículos laterais de ratos (*Rattus norvegicus*) submetidos ao alcoolismo crônico experimental (Resumo). Dissertação de Mestrado, Instituto de Biociências da Universidade Estadual Paulista (Área: Anatomia). Orientador: Oisenyl José Tamega.

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STUDY OF NORMAL STANDARD OF ADULT POPULATION THROUGH QUANTITATIVE ELECTROENCEPHALOGRAPHY (ABSTRACT)*. **DISSERTATION. SÃO PAULO, 1998.**

*RENATO ANGHINAH***

We studied the electric brain activity during wakefulness in 72 adult people, between 20 and 45 years old, through digital EEG and spectral analysis in order to propose a standardization for Brazilian adult population. All this group is healthy with laboratory examinations and clinical evaluation normal.

After Fourier fast transformation (FFT) calculation, we analyzed the behavior of most usual artifacts displayed in cartographic presentation, in order to obtain only exams free of artifacts, and 32 EEGs were excluded of initial group. We found in the other 40 EEGs a histogram display with monomodal distribution, with higher values in alpha band.

Analyzing the average of these results, different standards from the analogical traditional EEG were found, as the distribution of alpha band frontal and presence of delta activity during awake. The beta 2 and beta 3 behavior showed a diffuse distribution, that are not the usual. By the other hand, other findings are congruent to the analogical EEG as the alpha posterior predominance and the bigger presence of theta activity at the central regions.

The rhythm distribution in three age subgroups (20-29; 30-39 and 40-45 years old) showed an average of 10.0 Hz for the predominant rhythm for the three subgroups. We found a linear distribution for the delta and theta activities inversely proportional of age.

KEY WORDS: quantitative electroencephalography, reference standard, adult.

*Estudo do padrão normal por eletrencefalografia quantitativa para uma população adulta.(Resumo). Dissertação de Mestrado, Hospital do Servidor Público do Estado de São Paulo – IAMSPE (Área Clínica Médica). Orientador: Antônio Carlos de Paiva Melo.

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SLEEP APNEA AND GASTROESOPHAGEAL REFLUX: A STUDY WITH ESOPHAGEAL pH MONITORING AND POLYSOMNOGRAPHY (ABSTRACT)*. **THESIS. PORTO ALEGRE, 1999.**

*JOSÉ VICENTE NORONHA SPOLIDORO***

Objective: To access the association between gastroesophageal reflux (GER) and sleep apnea of infancy.

Patients and Methods: Study 1 – Infants (1 to 6 months old) were studied by esophageal pH monitoring and divided in 3 groups: APNEA (n=39) with history of sleep apnea of infancy; RESPIRATORY (n=59) with respiratory symptoms without history of sleep apnea of infancy; DIGESTIVE (n=14) without history of respiratory symptoms or sleep apnea of infancy. In the next step, the groups RESPIRATORY and DIGESTIVE were combined to compare esophageal pH monitoring between infants with and without sleep apnea of infancy. Study 2 – 23

infants from the APNEA group undertook polysomnography simultaneously with esophageal pH monitoring. They were divided in 2 groups by the ZMD index (G1 <4.4 min/episode and G2 \geq 4.4 min/episode). The ZMD index is the total time with esophageal pH below 4.0 during sleep time in late post-prandial time (more than two hours after feeding) divided by the number of reflux episodes during this same period of time, which means the average duration of reflux episodes during sleep at late post-prandial time. Tuttle test was done to see whether gastric acid stimulation could differentiate those infants with sleep apnea of infancy associated to the GER. The Tuttle test is the 3 hours of esophageal pH monitoring post gastric injection of 300 cc/1,73m² of 0.1N hydrochloric acid by nasogastric tube.

Results: Study 1 – The esophageal pH monitoring study of patients from the APNEA group had higher ZMD (p=0.011), reflux index (p=0.003) and number of episodes >5 minutes (p=0.001) than the RESPIRATORY group. As the DIGESTIVE group had few patients and the results were very similar to the RESPIRATORY group, they were put together, and became the NON-APNEA group. Comparing infants from the APNEA and NON-APNEA groups, their median (P25-P75) were respectively: ZMD 4.3 min/episode (1.1-7.1) vs 1.25 min/episode (0.5-2.75), p=0.003; reflux index 9,2% (5.2-14.8) vs 4.1% (2.2-7.7), p=0.001; number of episodes >5 minutes 31 (15-49) vs 10 (6-21), p=0.001. Multivariate analysis showed that infants with ZMD index >4.4 had 4.5 times more chance to develop sleep apnea (p=0.002), independent of age in months. Study 2 – G1 8.98 apneas/h (5.45-14.86) vs 13.08 apneas/h (7.92-21.43), p=0.085. The number of obstructive, mixed and central apneas were similar between the two groups. Apnea index (AI) (number of apneas/hour) was higher before Tuttle test (10.7 apneas/h [6.4-16.4]) than after (9.8 apnéias/h [4.4-14.0]), p=0.101. Comparing Tuttle test with esophageal pH study of 18-24h, the Pearson coefficient for reflux index was not significant (p=0.647).

Conclusion: 1) Infants with sleep apnea had more gastroesophageal reflux at sleep time (ZMD), higher reflux index and higher number of episodes longer than 5 minutes, than infants without history of sleep apnea. 2) Infants with long episodes of reflux during sleep time had 4.5 times more chance to have sleep apnea. 3) Apnea index was higher in infants with higher ZMD, what was clinically relevant but not statistically significant. 4) Tuttle test did not help to identify infants with association of sleep apnea of infancy and gastroesophageal reflux.

KEYWORDS: sleep apnea of infancy, gastroesophageal reflux, esophageal pH monitoring, polysomnography, ZMD, Tuttle test, infant.

*Apnéia do sono e refluxo gastroesofágico: avaliação por pHmetria esofágica e polissonografia (Resumo). Dissertação/Tese de Mestrado, Faculdade de Medicina da PUCRS - Pontifícia Universidade Católica do Rio Grande do Sul (Área: Pediatria). Orientador: Jaderson Costa da Costa.

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THE INFLUENCE OF THE ETHANOL IN ALCOHOLIC BEVERAGES IN THE ATHEROSCLEROSIS OF THE EXTRACRANIAL CAROTID ARTERIES (ABSTRACT)*. **DISSERTATION. SÃO PAULO, 1999.**

*IBSEN THADEO DAMIANI***

There is less incidence of occlusive cerebrovascular disease and atherosclerosis of the coronary as well other arteries with a light to moderate alcohol consumption, suggesting that the same may occur with respect with the extracranial carotid arteries.

Using color echo-Doppler and duplex ultrasonography, 328 extracranial carotid arteries of white male and females over 35 years old, with normal blood pressure, non-smokers and free of the main diseases make up the risk factors for cardiovascular diseases. They were stratified, according to the level of weekly alcohol consumption in milliliters (ml), in abstainers, light drinkers (1 to 100 ml), moderate drinkers (101 to 300 ml) and heavy drinkers (over 301 ml).

There was a lower incidence of atherosclerotic plaque and stenosis in the moderate drinkers.

Conclusion: the research suggests that ethyl alcohol when drunk with moderation exerts a protective action from atherosclerosis of the carotid.

KEY WORDS: alcohol, extracranial carotid arteries, echo-Doppler.

*A influência do etanol das bebidas alcoólicas na aterosclerose em artérias carótidas extracranianas (Resumo). Dissertação de Mestrado, Faculdade de Medicina da Universidade de São Paulo (área: Neurologia). Orientador: Milberto Scaff.

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NEUROCYSTICERCOSIS: A STUDY OF 177 CASES FROM SÃO JOSÉ DO RIO PRETO, SÃO PAULO, BRAZIL (ABSTRACT)*. DISSERTATION. SÃO JOSÉ DO RIO PRETO, 1999.

MARIA ADRIANA MARETTI**

A hundred seventy seven neurocysticercosis patients were evaluated according to their epidemiological aspects: clinical presentation, computerized tomography of the skull (CT), and cerebrospinal fluid (CSF).

The disease was present in 1.1% of all patients examined from July 1992 to April 1998 at the out-patient clinic of the Department of Neurology of the Hospital de Base, Regional Medical School of São José do Rio Preto. Most of the patients were from the city of São José do Rio Preto, mostly from the urban area (89%), equally divided between men and women, in age group 20 to 39 years old (53.2%).

The most frequent clinical presentation was epilepsy (58.2%), followed by: headache as an isolated symptom (17.5%), intracranial hypertension (14.1%), meningitis (8%) and other combined forms (2.2%).

CSF exam showed to be effective in neurocysticercosis diagnosis due to ELISA and immunofluorescence positive tests in 37.3% and 31% of the cases, respectively. CSF hypercytosis was present in 31.6% of the cases, with eosinophil cells in 26.5%.

Most of time, CSF findings were simultaneously related to CT active forms of neurocysticercosis. The most frequent isolated CT finding was presence of brain intraparenchymal calcifications (48%).

However, in the whole, active forms of neurocysticercosis were detected in 52% of the cases. This number characterizes the disease neglect in our environment. Also, it should be an alert in taking immediate preventive measures towards the disease control.

KEYWORDS: neurocysticercosis, cerebrospinal fluid, cranial CT scan, epilepsy.

*Neurocysticercose: estudo de 177 pacientes da região de São José do Rio Preto SP (Resumo). Dissertação de Mestrado, Faculdade de Medicina de São José do Rio Preto (Área: Biologia Médica). Orientador: Osvaldo Massaiti Takayanagui.

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DIAGNOSTIC PROFILE OF SCHISTOSOMOTIC MYELORADICULOPATHY IN THREE HOSPITALS OF BELO HORIZONTE, MINAS GERAIS (ABSTRACT)*. DISSERTATION. BELO HORIZONTE, 1994.

EUSTÁQUIO CLARET DOS SANTOS**

The involvement of the central nervous system in the course of schistosomiasis has been observed with all *Schistosoma* species. In cases of ectopic schistosomiasis it has been noted that *Schistosoma japonicum* preferentially affects the cerebrum whereas *Schistosoma mansoni* and *Schistosoma hematobium* usually localize in the spinal cord.

During a twenty years period (1972-1992) 56 patients with diagnosis of schistosomotic myeloradiculopathy were interned in three hospitals of Belo Horizonte - Minas Gerais. Data from each patient were collected retrospectively from their medical records. In all cases, the diagnosis was inferred in a presumably way and was based on the following: 1) finding of low thoracic/upper lumbar neurological symptoms; 2) positive epidemiology for schistosomiasis; 3) demonstration of exposure to schistosomiasis through parasitologic or serologic techniques; and 4) the exclusion of other known causes of myelitis.

In this series there were 44 (78.6) men and 12 (21.4%) women. Their ages ranged from 3 to 56 years old (median 28.86%). Several other demographic features – such as color, schooling, occupation and origin – were studied as to determine these patient's epidemiological aspects.

Of the 56 patients whose clinical histories were recorded, the most common symptoms were muscular weakness (85%), lumbar pain (76.8%), and urinary retention (75%). The most commonly sensory level was L1. One patient had a T4 sensory level while the lowest sensory level in this study was S1. There were reflex changes with reduced or absent ankle (66%) and knee jerks (51%).

The length of time between the beginning of the symptoms and the diagnosis varied from one day to 30 months.

The most frequent form of neurological involvement was myeloradicular (55.3%), followed by the myelitis (26.8%). The pseudotumoral form had only one case.

Cerebrospinal fluid (CSF) examination revealed hypercytosis ranging from a few to 699 leucocytes per mm³, with a predominance of mononuclear cells. Protein concentration was increased (72.5% of cases) and ranged from 10 to 2780 mg/dl. Eosinophil cells were recorded in 60.4% in CSF. Peripheral blood eosinophilia was present in 20.4%. *Schistosoma* ova were obtained from faeces in 77.4% of cases, and from rectal snips in

100% of subjects. Myelography was undertaken in 20 cases and revealed spinal block in just one. Schistosomiasis chronic intestinal form was observed in 10 cases. Systemic clinical form could not be estimated in 43 patients. The other forms (acute, hepatosplenic and hepatointestinal) had one case each one.

Corticosteroid therapy was used in 94.6% of cases (associated to specific treatment in 73.2% and, separately in 21.4%) . The best response was observed in the group that made use of corticosteroid in conjunction with schistosomicidal therapy. Due to disparity among the groups, comments could not be made about the best corticosteroid type applied or specific treatment drug.

We emphasize how important is thinking about this schistosomiasis diagnosis among patients suffering from myeloradiculopathy, and applying proper protocols to register the cases. Criteria to improve this disorder classification are suggested.

KEY WORDS: schistosomiasis, radiculopathy, myelitis.

*Perfil diagnóstico da mielorradiculopatia esquistossomótica em três hospitais de Belo Horizonte, Minas Gerais (Resumo). Dissertação de Mestrado, Universidade Federal de Minas Gerais (Área: Medicina Tropical). Orientador: Manoel Otávio da Costa Rocha.

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