THESES

BRAIN ARTERIOVENOUS MALFORMATIONS: MORPHOLOGICAL CHARACTERIZATION AND CLINICAL CORRELATION (ABSTRACT)*. DISSERTATION. SÃO JOSÉ DO RIO PRETO, 2007.

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Introduction: Brain arteriovenous malformations (BAVM) are morphological and neurovascular abnormalities characterized by direct communication between arteries and veins, without interposition of capillary bed, therefore without resistance to blood flow.

Objective: The purpose of this research was to characterize morphologically brain arteriovenous malformations aiming correlation with clinical presentation.

Method: A total of 170 patients with brain AVM, 78 (46%) males and 92 (54%) females, were studied from January 2001 to January 2007 at the Vascular and Endovascular Neurosurgery Unit of the Hospital de Base of São José do Rio Preto, SP. Univariate and multivariate analyses were conducted to test the associations among demographic (sex, age), clinical (hemorrhage, seizure, focal neurological deficit, and headache), and morphological features (anatomical localization; superficial, deep, infratentorial or supratentorial location; nidus size; number of feeding arteries, compartments, and draining veins; type of venous drainage; presence of stenosis, venous ectasias, and arterial aneurysms; Spetzler-Martin classification).

Results: The main clinical presentations at the moment of diagnosis included hemorrhage in 89 (52%) patients, headache in 79 (46%), focal neurological deficit in 54 (32%), and seizure in 52 (31%). According to the Spetzler-Martin classification, grade I was found in 15 (9%) patients, grade II in 49 (28%), grade III in 55 (33%), grade IV in 41 (24%), and grade V in 10 (6%) patients. There was a statistically significant association among hemorrhage and small nidus size (p=0.002), single feeding artery (p=0.007), single draining vein (p=0.003), and single compartment (p=0.040). Seizure was positively correlated with medium (3–6 cm) and large nidus size (>6cm), and negatively with small nidus size (<3cm) (p=0.021).

Conclusion: Brain AVM with small nidus size, Spetzler-Martin grade I, single feeding artery and draining vein are associated with hemorrhage. Spetzler-Martin grade V was negatively associated with hemorrhage. In the brain AVM there is no association between aneurysm and hemorrhage. On the other hand, seizure show positive correlation with large nidus size and negative with small nidus size.

Key words: brain arteriovenous malformations, morphology, clinical presentation.

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SLEEP AND ITS DISTURBANCES AT PARKINSON DISEASE: POLYSOMNOGRAPHIC CHARACTERISTICS (ABSTRACT)*. THESIS. LONDRINA, 2007.

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Sleep disorders are often seen in Parkinson disease patients, causing impairment to their quality of life. Studies over Parkinson disease, its sleep characteristics, and polysomnographic aspects, are uncommon.

Objective: To determine the main sleep disorders and its polysomnographic characteristics in patients with Parkinson disease in the Department of Neurology at the *Hospital das Clinicas* at Londrina State University *(Universidade Estadual de Londrina - UEL)*, from 2005 to 2007. And to compare the results to a paired control population (control group).

Method: 253 patients of idiopathic Parkinson disease, and 246 sample population, thru this controlled process were evaluated. The polysomnograghy was performed in 156 patients and 64 of the control group. The informed consent forms were obtained; this research was approved by the Ethics Committee. The patients were evaluated using Sleep Questionnaire, Unified Parkinson Scale, Hoehn & Yahr Scale, Pittsburgh Sleep Quality Index (PSQI), Epworth Sleepiness Scale (ESS), Schwab England Scale, Mini Probe of Mental Status, and Scale for Evaluation of Economic In-

dex. Evaluation of quantitative standards at the polysomnography included the sleep myoclonus periodicity, the apnea-hypopnea index, and digital oximetry. At the statistical analyses were used the Parson's Chi Square, Student T, and the Mann-Whitney, with significant level of 5%.

Results: 126 men and 127 women with Parkinson disease, 125 men and 121 women at the control group were evaluated. The average age was 68 years old. The disease time was of 6.06±5.12 years. Bedtime, time to fall asleep, and sleep duration were similar in both groups. The sleep quality was impaired in Parkinson disease ($p>0.001$). The number of awakenings was higher the Parkinson patients ($p=0.001$). Insomnia and excessive daytime sleepiness were more common in Parkinson disease, with significant statistic differences. Complaints related to restless legs and REM behavior disorder were higher in Parkinson group patients. The Epworth Sleepiness Scale scores were similar in both groups. The Pittsburgh Sleep Quality Index showed the Parkinson disease group as poor sleeper ($p<0.001$). The insomnia was linked with movement difficulties, illness time and Levodopa dosage. The diurnal sleepiness was related to the time of the illness and to the Hoehn & Yahr scale. At the polysomnography, the total sleeping time was decreased at the Parkinson disease group ($p<0.001$). The total time awake and sleep latency were higher at the Parkinson disease, respectively $p<0.001$ and $p=0.0012$. REM latency and number of awakenings were similar in both groups. The stages 1 and 2 of the sleep were higher at the Parkinson disease group with sleep efficacy impairment ($p<0.0001$). Significant statistical differences in percentage of deep (stages 3 and 4) sleep and REM sleep were present. The periodic legs movement index and the obstructive sleep apnea index did not show significant differences. REM sleep without atonia was detected in 11 (7.1%) and central apnea in 3 (1.92%) of the patients.

Conclusion: The sleep impairment is a relevant finding in Parkinson disease. Characteristically, insomnia and the excessive daytime sleepiness were predominant. The polysomnographic findings show intense impairment of the sleep architecture within patients with Parkinson disease.

Key words: Parkinson disease, sleep, sleep disorders, insomnia.

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EVALUATION OF SUBTLE MOTOR DEFICIT SIGNS IN PATIENTS WITH MONOHEMISPHERIC BRAIN TUMOR (ABSTRACT)* . DISSERTATION. RIO DE JANEIRO, 2007.

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Introduction: One of the several functions of the physical therapist is to identify specific lesions responsible for pain, paralysis, or paresis. This is followed by an evaluation the presentation and integrity of the systems and structures involved, as well as estimating the patient's performance level in his daily occupational and recreational life. Identifying the motor deficit established in the patient's most severe expression does not pose great difficulty, due to the stereotypical aspect in which it is presented. On the other hand, the identification of motor deficits that are subtle to the point that they are not even recognized by the subjects themselves becomes a challenge when using only muscular force tests by confrontation and counter-resistance, which are part of the conventional neurological examination.

Objective: This prospective study has the objective of evaluating the sensitivity and the specificity of a series of semiologic tests focusing on subtle motor deficits in patients with monohesmispheric cerebral tumors.

Method: We used a blind design to study 94 subjects randomly selected from the Neurosurgery/Neurology ambulatory of INCa, and they were divided in two groups: 1) patients with monohesmipheric cerebral tumor with more than 30 days of evolution and no apparent motor deficit (n=60) and 2) individuals without cerebral tumor (n=30). All subjects underwent a brain magnetic resonance or computed tomography examination, sometimes both. Four individuals were removed from the sample. The Author had no access to clinic histories, neurologic examinations, brain image tests, or diagnoses. Following the mini-mental status examination (Folstein, 1975, required minimum score: 25), thirteen tests were sequentially performed: Spasticity of Conjugate Gaze (SEOC); Platism Sign (SP); Forearm Rolling Test (SRA); Souques Intersosseous Sign (SIS); Pronator Drifting Test (SPr); Mayer Sign (SM); Finger Tapping Sign (SBD); Foot Tapping Sign (SBP); Babinski Sign (SB); Chaddock Sign (SC); Digit Quinti Sign (SQD); and the Digit Quinti Rolling Sign (SRQD).