

THESES

SURGICAL TREATMENT AND PREDICTIVE FACTORS IN SUBARACHNOID HEMORRHAGE (ABSTRACT)*. **THESIS. CAMPINAS, 2003.**

*GUILHERME BORGES***

Spontaneous subarachnoid hemorrhage is mostly caused by ruptured saccular aneurysms. Patient clinical condition is important to establish the best treatment. Some scales are able to predict patient clinical status and the most useful are the Hunt & Hess classification and the World Federation of Neurosurgical Societies scale. Among neurological complications rebleeding, vasospasm, hydrocephalus, intracerebral hematomas and seizures are frequently found after subarachnoid hemorrhage.

The aim of this study was to assess several factors that could be related to outcome such as preoperative clinical status, gender, age, color, hypertension, smoking, site and size of aneurysm, admittance Hunt & Hess classification, surgical complications, timing of surgery, vasospasm and rebleeding.

CT (computed tomography) findings are important in the prognostic evaluation. Fisher et al. suggested a graded scale based on the blood amount seen in the CT to foresee the risk of clinical and angiography vasospasm. Vasospasm is the most common complication of subarachnoid hemorrhage and is a clinical condition similar to cerebrovascular disease that occurs in the onset or later after a subarachnoid hemorrhage.

The importance of establishing predictive factors is to predict high-risk patients and to improve

treatment, justifying our investigation to find possible factors that could determine the prognosis of this life threatening disease. Patients studied were mainly female, white, without previous history of hypertension and non-smokers. Upon hospital admittance Grade II of Hunt & Hess classification was the most frequently observed, while grade III of Fisher's scale was the most prevalent. The anterior circulation was the commoner location of the aneurysms. Admittance Hunt & Hess and presence of complications during surgical procedure showed strong correlation with clinical outcome ($p=0.00002$ and $p=0.001$, respectively).

Other data did not show correlations with prognosis. Tendency of proportion was observed between Hunt & Hess classification and Fisher grade. The mortality rate observed in the presented series was 23%, 22.5%, 11.7%, 8%, and 17% respectively, according to recent series published elsewhere.

Conclusion: Among epidemiological data, previous medical history and presenting conditions of patients with ruptured aneurysms, Hunt & Hess classification is the variable that better predicts surgical outcome.

KEY WORDS: cerebral aneurysm, subarachnoid hemorrhage, cerebral vasospasm, outcome.

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USE OF THE FLAIR SEQUENCE IN THE MAGNETIC RESONANCE EVALUATION OF NEUROCYSTICERCOSIS (ABSTRACT)*. **THESIS. SÃO PAULO, 2003.**

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Neurocysticercosis is an infectious disease of parasitic origin characterized by the involvement of the central nervous system (CNS) by the larval form of the *Taenia solium*, being considered one of the more frequent infectious diseases in this location in humans. It represents an important public

health problem, for most of the developing countries. Recent data mention 50,000 deaths a year and not less than 20 million people infected by the cysticerci, in the world.

The objectives of this study were: to evaluate the usefulness of the magnetic resonance (MR)

FLAIR sequence, in the diagnosis of this disease; to compare the main findings of the FLAIR sequence to the other MR sequences; and to define the preferential location of neurocysticercosis lesions, as well as the apprenticeships in the larval way most found in this series.

We studied prospectively MR exams of 115 patients with neurocysticercosis, with ages varying between 4 and 64 years, presenting intracranial lesions. The MR protocol included T1, T2, FLAIR and T1 weighted images after the injection of the paramagnetic contrast. Two post-contrast sequences were obtained, one immediately after gadolinium injection and the other some minutes afterwards. All MR exams were evaluated by two radiologists separately. Each one of the examiners took notice for every sequence and MR exam of the lesions location (parenchymal, subarachnoid, ventricular or the association of one or more of the previous ones); the total number of lesions, specifying how many were calcified and in how many a scolex could be detected; the lesions topography (supratentorial, infratentorial or both), and the lesions apprenticeship of the larval form: vesicular, colloidal vesicular, nodular or calcified nodular. There were no statistically significant differences between the results obtained by the two examiners, demonstrating internal agreement.

Of the 115 MR exams: 80 (69.6%) presented parenchymal lesions, 11 (9.6%) subarachnoid, 6 (5.2%) ventricular and 18 (15.6%) presented two or more different forms. FLAIR allowed the detection of the

largest number of lesions with scolex and in the late enhanced T1-weighted images it was possible to detect the largest number of total lesions. In 32 cases for the examiner A and in 28 for B, the scolex was visualized in just one of the sequences, being this sequence, in 27 and 24 of these cases respectively, the FLAIR sequence. The lesions preferential location was in the supratentorial compartment. Regarding the apprenticeships in the larval way it was observed that in 98.3 to 99.1% of the cases the vesicular apprenticeship existed, in 47.0 to 50.4% the colloidal vesicular, in 65.2 to 69.6% the nodular and in 31.3 to 33% the calcified nodular lesions.

In conclusion: the FLAIR sequence detected the larger number of scolex, which is considered a criterion for the definitive diagnosis of the disease. The FLAIR sequence demonstrated a larger total number of lesions than the T1 and T2-weighted images, but out of all sequences the late enhanced T1-weighted image allowed visualization of the largest total number of lesions. The parenchymal form was mostly found in this series (69.6% of the patients). Lesions prevailed in the supratentorial location (68.7% to 71.3%). With relationship to the evolutionary apprenticeship in the larval way there was a prevalence of the vesicular stage (98.3 to 99.1% of the cases), associated to at least two stages in 65.2 to 69.6% of the cases and the four stages of the larval way were present among 31.3 to 33.0% of the cases.

KEY WORDS: cysticercosis, central nervous system, magnetic resonance imaging, FLAIR sequence.

*Sequência Flair da ressonância magnética na neurocisticercose (Resumo). Tese (Doutorado), Universidade de São Paulo (Área: Radiologia). Orientador: Cláudia da Costa Leite.

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NEUROPSYCHOLOGICAL EVALUATION: COMPARATIVE STUDY OF CHILDREN WITH HEMIPARETIC CEREBRAL PALSY AND LEARNING DISORDERS (ABSTRACT)*. **THESIS. CAMPINAS, 2002.**

MARIA DE LOURDES MERIGHI TABAQUIM**

The aim of this piece of study was the set up and the analysis of data related to the neuropsychological evaluation of children from seven to twelve years old, boys or girls, from average to below-average socio-economical level, from regular and specialized public schools from Bauru and Campinas.

This study has analyzed the relation between the learning process of children with neurological damages like mental paralysis in the hemiparetic

convulsive way, with or without mental deficiency and in children without neurological deficiency but with learning problems report, having a controlling group formed by children without learning and development report.

Eighty-five children formed four distinct categories: Group I (PC/SDM), Group II (PC/CDM), Group III (N/CDA) and Group IV (N/SDM). The evaluation procedures consisted of standardized tests of men-