

THESES

STANDARDIZATION OF TOMOGRAPHIC INDEXES OF THE FOURTH VENTRICLE AND ITS CHARACTERISTICS IN PATIENTS WITH NEUROCYSTICERCOSIS (ABSTRACT)*. **THESIS. BOTUCATU, 1998.**

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Cysticercosis of the fourth ventricle is characterized by manifestations of a posterior fossa hypertension. Its isolated enlargement constitutes a clinical-pathological entity denominated isolated fourth ventricle which pathophysiology remains controversial. There are few reports on the methodology for the diagnosis of an isolated dilation of the fourth ventricle. The objectives of the present study were to propose a pattern of normality of representative indexes of the fourth ventricle dimensions in patients with normal computerized tomography (CT) of the skull and to study characteristics of these indexes in patients with neurocysticercosis (NCC).

In normal CT scans of 114 patients (control group, CG) and in CT scans of 80 patients with diagnosis of NCC (NCC group, NG) the following measures were performed: distance between frontal horns (FH) of lateral ventricles, inner cranial diameter (IC), anteroposterior (AP) and laterolateral (LL) diameters of the fourth ventricle. Six indexes were established: FH/IC, AP/IC, LL/IC, AP/FH, LL/FH and AP/LL. After statistical analysis, the most representative parameters of fourth ventricle dimensions were the indexes AP/IC and AP/FH and AP/LL. Based on these three indexes 51 patients with NCC (NG-IVth) who presented at least one of these indexes with value above two standard deviations of the statistical average obtained in the CG were selected. This group of patients was analysed in more detail.

In **CG** the values of the studied indexes were: FH/IC = 0.244 ± 0.034 ; AP/IC = 0.063 ± 0.020 ; LL / IC = 0.109 ± 0.026 ; AP/FH = 0.267 ± 0.100 ; LL/FH = 0.458 ± 0.136 ; and AP/LL = 0.582 ± 0.139 . In **NG** they were: FP/IC = 0.257 ± 0.041 ; AP/IC = 0.082 ± 0.037 ; LL /IC = 0.102 ± 0.034 ; AP/FH = 0.323 ± 0.143 ; LL/FH = 0.409 ± 0.139 ; and AP/LL = 0.797 ± 0.213 . Except for LL/IC and LL/FH, the differences between groups reached statistical significance (NG > CG). There were no differences ($p > 0.10$) related to gender and age range in both groups. In NG the values obtained before albendazole treatment did not differ ($p > 0.30$) from those obtained after it.

The study of NG-IVth showed that epilepsy prevailed (55.9%) among patients with good evolution (GEv), and intracranial hypertension (75%) in those with sequels (SEv) and in all of those who died (DEv). In most (82.5%) of the patients with GEv the indexes were within normal values in at least one of the evolution CT scans. The association between FH/IC with one or more of the three representative indexes was higher (77.8%) in patients with DEv – essentially to AP/LL. When presence of ventriculo-peritoneal shunt (VPS) in patients with DEv was considered, there was a preponderance (66.7%) of these three indexes, even before shunt procedure.

AP/LL index ≥ 1 was found in: 95.2% of patients with VPS; 87.7% of those with depression; 81.6% of patients who had two or more clinical manifestations; and 78.6% of patients who presented Parinaud syndrome. This AP/LL index characteristics was also detected in: 73.5% of patients who had GEv; 87.5% of those with SEv; and all patients who died.

Depressive manifestations were seen in 38.2% of patients with GEv and in all of those with SEv and DEv; men were more frequently (56.7%) affected and the onset of these manifestations were more common (88.9%) after VPS also in patients with DEv. The classic syndrome of cerebrospinal fluid (CSF) in NCC occurred in 66.7% of patients with DEv; normal CSF was more frequent (29.4%) in those with GEv.

Possible implications of AP/IC, AP/FH and AP/LL indexes for the diagnosis of fourth ventricle enlargement – either isolated or not – in NCC are discussed.

It is concluded that: AP/LL index may be considered as the fourth ventricle sentinel; AP/IC, AP/FH and AP/LL indexes can define an involvement of the fourth ventricle, even in those situations in

which it may be subjectively considered normal; and concomitance of depressive manifestations, hydrocephalus, clinical polymorphism and typical CSF very much worsen the prognosis. On the other hand, studies of the fourth ventricle in patients with other disorders, including depression without neurological manifestations, perhaps could bring some more information to understand fourth ventricle enlargement pathophysiology and treatment.

KEY WORDS: neurocysticercosis, fourth ventricle, indexes, computerized tomography.

* Padronização de índices tomográficos do IV^o ventrículo e suas características em doentes com neurocisticercose (Resumo). Tese de Livre-Docência: Disciplina de Neurologia, Departamento de Neurologia e Psiquiatria, Faculdade de Medicina da Universidade Estadual Paulista (UNESP).

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BASAL GANGLIA CALCIFICATION (STRIOPALLIDODENTATE CALCIFICATION) AND COGNITIVE IMPAIRMENT (ABSTRACT)*. THESIS. NITEROI, 1998.

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Basal ganglia calcification (BGC), or striopallidodentate calcification, is a bilateral and symmetrical intracranial calcification, affecting, in decreasing frequency, the pallidum, dentate nucleus of cerebellum, striatum, thalamus, white matter and cerebral cortex. It is a syndromic condition, being associated with endocrine – particularly hypoparathyroidism and pseudohypoparathyroidism –, toxic/iatrogenic and mitochondrial disorders; there are also instances of familiar and idiopathic BGC. The clinical manifestations include neuropsychiatric – cognitive impairment and dementia, schizophreniform psychosis, and affective disorder –, epileptic, extrapyramidal and cerebellar manifestations. As regards the diagnostic workup, neuroimage, mainly cranial computerized tomography (CT), and laboratory exams, in order to investigate calcium-phosphorus metabolism abnormalities, are most important.

We have evaluated six patients with BGC on cranial CT (three with extensive BGC and three with pallidal calcification), through clinical, laboratory and neurological examinations, including extensive neuropsychological battery. Neuropsychological tests consisted of: mini-mental state examination (MMSE), Wechsler adult intelligence scale-revised (WAIS-R), Wechsler memory scale-revised (WMS-R), Wisconsin card sorting test (WCST), trail making test (TMT) A and B, Porteus tests, and evaluation of language, praxis and gnosis.

Results evidenced marked cognitive impairment in patients with extensive BGC, two of them displaying dementia and the third mental retardation, characterized by: impaired verbal, performance and total intelligence quotient (IQ); impairment of attention/concentration and memory; impairment of mental shift, abstract/conceptual reasoning and planning; preservation of language, except for dysnomia in one patient; preservation of ideomotor and ideational praxis, and gnosis; impaired constructional praxis. MMSE was not an adequate screening instrument for the detection of dementia in BGC patients. Patients with pallidal calcification presented impairment of attention/concentration, mental shift and abstract/conceptual reasoning, suggesting frontal dysfunction.

The concepts of subcortical dementia and physiological BGC are discussed. We recommend the utilization of the terminology “striopallidodentate calcification”, “striopallidal calcification”, “pallidodentate calcification” and “pallidal calcification”.

KEY WORDS: basal ganglia calcification, striopallidodentate calcification, Fahr syndrome, cognition, subcortical dementia.

* Calcificação dos núcleos da base (calcificação estriopallidodentada) e comprometimento cognitivo (Resumo). Tese de Mestrado, Universidade Federal Fluminense (Área: Neurologia). Orientador: Osvaldo José Moreira do Nascimento.

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CRYPTOCOCCOSIS OF THE CENTRAL NERVOUS SYSTEM AND AIDS (ABSTRACT)*. DISSERTATION. SÃO JOSÉ DO RIO PRETO, 1998.

*ELISABÉTE LISO ***

This dissertation comprehends a clinical study of 96 patients with cryptococcosis of the central nervous system and AIDS between January 1992 and November 1997. Epidemiological data were analyzed such as age, sex, race, risk factor and professional occupation.

General average age was 31.12 years-old. White color (69.9%) and men (86.5%) predominated. Major risk factor was sexual with predominance of heterosexual patients; intravenous drugs abusers were 43.8%. According to professional occupation, mason (14.5%), cabinet-maker (12%), mechanic (10.8%) and general services (9.6%) predominated. Patients were grouped according to severity of the disease (Groups I to IV).

Clinical analysis showed predominance of headache (93.6%), vomiting (59.5%), fever (43.6%) and disturbance of behavior (27.6%).

Computed tomographic scan was performed in 63.5% of the cases with normal results in 50.8%.

Cerebrospinal fluid (CSF) showed: white cell count 12 cell/mm³ (median) predominantly lymphocytes (81%) with minimal neutrophilic reaction (2%); protein and glucose median concentration 54 and 40.5 mg/dL, respectively. CSF cryptococcus gemulation rate was possible in 90.6% cases. CSF cryptococcal antigens presented the highest positive rate (100%).

Cumulative survival curve revealed a statistically significant relationship between: disturbed behavior, seizures and arterial hypertension, and Group I; lower degree pleocytosis, and Group I; and presence of plasmocyte cell, and Group IV.

KEY WORDS: cryptococcosis, AIDS, cerebrospinal fluid, central nervous system.

*Neurocriptocose do sistema nervoso central e AIDS (Resumo). Dissertação de Mestrado, Faculdade de Medicina de São José do Rio Preto (Área: Biologia Médica). Orientador Osvaldo Massaiti Takayanagui.

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GENETIC CONTROL OF CENTRAL NERVOUS SYSTEM TUMORS (ABSTRACT)*. DISSERTATION. SÃO PAULO, 1999.

*JOSÉ AUGUSTO NASSER DOS SANTOS***

The recent understanding of molecular biology and cancer has confirmed that cancer is a genetic disease. The aim was establish the definitions and the current concepts of molecular biology and brain tumors.

The first part of this study shows the basic concepts regarding laboratory experiments in nucleic acids and proteins: a) the extraction and cellular preparation from tissue culture or directly from operating room; b) the nucleic acids hybridization; c) the DNA, RNA and proteins analysis in gels. The results obtained in these experiments are analyzed and compared with previous reports. This is the way that new theories are created.

The second part is a review of every molecular mechanism specifically related with brain tumors: a) cytokines or growth factors; b) oncogenes; c) tumor suppressor genes; d) epigenetic events; e) molecular biology of cell cycle; f) tumor cell invasion; g) the theory of glioma progression.

The third and last part is the most exciting subject that has been developed in this decade. Genetic therapy is a big challenge for every human disease, especially for central nervous system and its tumors. It is brought in a discussion the difficulties about delivery system of genetic particles created or modified by genetic engineering. What are the current protocols running around the world. The preliminary results and conclusions.

This study provides a review of what is happening about molecular biology and brain tumors. It allows professionals related with these or other tumors having the concepts of basic aspects of laboratory experiments, the fusion of these concepts and molecular mechanisms of tumor genetics and finally the main issue after the mapping of every gene related with brain tumors, which is the genetic therapy.

Genetic therapy is only in the beginning, by possibly is going to be the real treatment of brain tumors, targeting only the tumor cells and preserving the normal cells.

KEY WORDS: genes, molecular biology, brain tumors, gene therapy.

*Controle genético dos tumores do sistema nervoso central (Resumo). Dissertação de Mestrado. Escola Paulista de Medicina, Universidade Federal de São Paulo UNIFESP (Área: Neurocirurgia). Orientador: Antônio de Pádua Bonatelli.
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Corrections

Carpal tunnel syndrome: clinical, epidemiological and nerve conduction studies in 668 cases (Abstract). Dissertation. São José do Rio Preto, 1998. João Aris Kouyoumdjian. Arq Neuropsiquiatr 1998;56:862.

From - *Síndrome do túnel do carpo: aspectos clínico-epidemiológicos e de condução nervosa em 668 casos (Resumo). Dissertação de Mestrado, Faculdade de Medicina de Ribeirão Preto

To - *Síndrome do túnel do carpo: aspectos clínico-epidemiológicos e de condução nervosa em 668 casos (Resumo). Dissertação de Mestrado, **Faculdade de Medicina de São José do Rio Preto**

Headache in childhood and adolescence: clinical and laboratory aspects (Abstract). Thesis. Campinas, 1998. Abram Topczewski. Arq Neuropsiquiatr 1998;56:862-863

From - Aeadacae in caildaood and adolescence: clinical and laboratory aspects (Abstract).

To - **Headache in childhood and adolescence: clinical and laboratory aspects (Abstract).**

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Para publicação, o Autor deve encaminhar ao Editor: *abstract* da tese, acompanhado do *título em inglês* e em português; *key words*; *disquete* com a reprodução desses dados.

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