

THESES

ENANTIOMERS OF SULFOXIDE OF ALBENDAZOLE: CEREBROSPINAL FLUID AND PLASMA LEVELS AND THERAPEUTIC EFFICACY IN THE TREATMENT OF PATIENTS WITH NEUROCYSTICERCOSIS (ABSTRACT)*. **THESIS. RIBEIRÃO PRETO, 2003.**

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Neurocysticercosis (NCC) is a severe problem of public health in the developing countries that acquires special concern in our region, where it is an endemic disease with proteiform manifestations and high mortality and morbidity. As well as the advance in the field of diagnosis through computerized tomography (CT), nuclear magnetic resonance (MRI) and the study of cerebrospinal fluid (CSF), the development of effective medicines against the parasite has been propitiating adequate treatment to a lot of cases, while the albendazole is regarded as the first choice medicine. The sulfoxide of albendazole, the main metabolite of albendazole, is a chiral compound. So far, the exact influence of each enantiomer in the eradication of parasite in human being is unknown.

The present study aimed the analysis of the concentration of albendazole metabolites (sulfoxide of albendazole + and -), in plasma and CSF of patients with active neurocysticercosis, searching for an correlation between that concentrations and efficacy of treatment.

The group of patients was composed by 25 adults, 14 of which showed only parenchymal cystic lesions, 7 indicated only extraparenchymal lesions and 4 cases with coexistence of intra and extraparenchymal lesions. The number of lesions was defined by CT and/or MRI

before and after the minimum period of 6 months from the beginning of the treatment which consisted in albendazole (dose of 15 mg/kg/day during 8 days).

The samples of sera and CSF were collected in the steady state, through the dose interval of 8 and 12 hours.

Among the 18 cases with parenchymal cysts, 11 cases presented total resolution of the lesions and 7 cases partial resolution. The respective mean concentration of albendazole sulfoxide dextrogyre in CSF were 145.7 ng/ml and 58.0 ng/ml. Among the 11 cases with extraparenchymal cysts, 4 cases had response to the treatment and 7 cases showed no difference after the treatment. All the metabolites studied in plasma or CSF demonstrated higher concentrations in the group with response.

This study suggests that in the treatment of patients with parenchymal forms of the disease, the higher concentrations in the CSF of (+) albendazole sulfoxide were correlated with higher efficacy. In the group with extraparenchymal lesions we were not able to link any enantiomer with a higher efficacy. However, it was clear that the doses of medication must be adjusted as long as the lower levels of metabolites were associated with failure in treatment.

KEY WORDS: central nervous system cysticercosis, treatment, sulfoxide of albendazole, enantiomers.

*Avaliação dos níveis de enantiômeros de sulfóxido de albendazol no LCR e plasma na eficácia terapêutica da neurocisticercose (Resumo). Tese de Doutorado, Universidade de São Paulo (Área: Neurologia). Orientador: Osvaldo Massaiti Takayanagui.

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HEADACHE IN ELDERLY OUTPATIENTS – BRAZIL (ABSTRATC)*. **THESIS. NITERÓI, 2002.**

JANO ALVES DE SOUZA **

Introduction: Brazilian population is aging. In contrast to what happens to most symptoms, headache prevalence decreases during aging. Yet, 13.9% of women and 6.5% of men report recurrent headache. Despite this, there have been published few papers referring to headache in the elderly.

Objectives: 1) Identify the most prevalent types of headache and their characteristics at presentation in a group of elderly; 2) compare frequency of headache

types among the elderly and the young; 3) assess and compare frequency of diagnosed headache due to structural cause in the elderly and the young; 4) find out whether age is an independent risk factor for headaches due to structural cause.

Method: There were 2,735 sequential patients, over 18 years old, from a private neurological practice. They were divided into two groups: patients with headache (n=1,131) and those without headache (n=1,604). Pa-

tients with headache were further divided, according to age, into young (18 to 59 years old) and elderly (from 60 years old on); according to age of patient at onset of headache, into before or after 60 years of age; and according to time elapsed since onset of symptoms, into less than a year or over a year. Frequency and presentation aspects of primary headaches, headaches due to structural causes, and headaches due to severe structural causes were analyzed and compared in the groups. The significance of time elapsed since onset of symptoms and age as risk factors for headache due to structural cause were assessed. Statistical analyses were undertaken using either the Chi-square method or the Fisher's test, at 5% significance level.

Results: Migraine was the most frequent type of head-

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EPIDEMIOLOGIC STUDY OF CYSTICERCOSIS AND TAENIASIS IN MULUNGU DO MORRO – BAHIA (ABSTRACT)*. **THESIS. SALVADOR, 2001.**

IRENIO GOMES**

Introduction: The neurologic infection due to the larval stage of *Taenia solium* (cysticercosis) is a serious public health problem. Although it is not considered endemic region, in the northeast of Brazil there are the necessary conditions to the development of this disease.

Objective: To establish the prevalence of serum anti-cysticerci antibody and antigens in neurologic patients, especially with seizures in the city of Mulungu do Morro; to describe the characteristics of the seizures of this region; to determine the prevalence of taeniasis, positive serology to cysticercosis and seizures in the population of the city.

Method: An outpatient service of neurology/epilepsy was created. A specific questionnaire was filled for each patient and a blood sample were collected for the serology studies. To establish the prevalence of taeniasis/cysticercosis markers in the population blood and stool samples were collected in 175 families. The identification of the serum anti-cysticerci antibody was done by the EITB method and the presence of taeniasis was verified by the ELISA capture to identify parasite antigens in the stool. The prevalence of epilepsy was evaluated by a study door to door. Initially,

dache among the elderly in general. In the elderly whose age at onset of headache was over 60 years old, tension type headache was the most frequent one. Cervicogenic headache was the most frequent headache due to structural cause diagnosed. The elderly as a whole, the elderly with onset of headache after 60 years of age, and the elderly with time elapsed since onset of symptoms of less than a year correlated with headaches due to structural cause and to headache due to severe structural cause.

Conclusion: The elderly present headaches due to structural cause more frequently than the young; 2) time elapsed since onset of symptoms of less than a year and age of patient at onset of headache after 60 years old are independent risk factors for headaches due to structural cause and to severe structural cause.

KEY WORDS: headache, elderly.

it was applied a questionnaire, and then the suspected cases were confirmed.

Results: In the initial phase of the service, it was collected samples of 193 patients with neurologic symptoms. Anti-cysticerci antibody were obtained in 14% of the cases, the antigens were found in 4.7% and only 1 patient had both antibody and antigens present in the serum. Among the 66 epileptic patients, positive serology was observed in 15.2%. The serologic prevalence of cysticercosis was 1,6% and the prevalence of taeniasis was 4.5% in the population of the city. The prevalence of unique seizures, active epilepsy (at least one seizure in the last year) and accumulated epilepsy (active and inactive, unique crisis included) were 7.6/1000, 6.2/1000 and 22.9/1000 inhabitant, respectively.

Conclusion: The results showed that Mulungu do Morro (Bahia) is endemic to taeniasis and cysticercosis. There was a high prevalence of epileptic crisis, but these tended to be benign. It can also be concluded that others cities in the northeast of Brazil, with similar characteristics, can also be endemic to these diseases.

KEY WORDS: cysticercosis, taeniasis, epilepsy, parasitic and infectious diseases, epidemiology.

* Estudo epidemiológico da cisticercose e teniase em Mulungu do Morro-Bahia (Resumo). Tese de Doutorado, Universidade Federal da Bahia (Área: Neurociências). Orientador: Ailton Melo.

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EFFECT OF CLOZAPINE AND TYPICAL ANTIPSYCHOTICS ON P50 SUPPRESSION IN PATIENTS WITH SCHIZOPHRENIA. (ABSTRACT)*. **DISSERTATION. PORTO ALEGRE, 2003.**

JEFFERSON BECKER **

Introduction: The P50 is a mid-latency evoked potential used to characterize differences in auditory sensory gating among psychiatric patients and normal controls. Attenuation of the amplitude of the P50 component with stimulus repetition is widely used to study sensory gating. In the P50 suppression paradigm, when a pair of auditory stimuli is presented 500 ms apart, the amplitude of the second response, compared with the first one, is markedly attenuated in healthy subjects. Most schizophrenic patients, on the other hand, fail to inhibit the P50 response to the second stimulus, which is assumed to reflect an inhibitory deficit.

Objective: To verify if clozapine has distinct effects in the P50 suppression compared to typical antipsychotics. To replicate in our population the findings, which showed that a sensory gating suppression deficit persists in schizophrenics, treated with typical antipsychotics compared to healthy subject. To find out if there is a relation between the P50 suppression failure in schizophrenic patients and the Brief Psychiatry Rating Scale (BPRS) scores.

Method: Fifty schizophrenic patients who fulfilled DSM-IV criteria for schizophrenia, selected from the private and public health system, and 25 healthy volunteers were selected for the study. Exclusion criteria were another DSM-IV axis I psychiatric diagnosis evaluated with MINI, use of any atypical antipsychotic medication but clozapine or use of drugs of abuse in the last month. This population was divided in three groups (n=25): group 1 – schizophrenics treated with typical antipsychotics; group 2 – patients with schizophrenia in use of clozapine; group 3 – normal controls. All participants were submitted to P50 recordings according to Ghisolfi et al. (Neuropsychopharmacology 2002;27:629-37) protocol. BPRS were assessed by a board-certified psychia-

trist before the P50 recording. Critical variables for the analysis included conditioning (S1) and test (S2) P50 amplitude and latency, S2/S1 ratio, S1-S2 difference and BPRS scores. ANOVA was performed for comparable data among the groups. Post hoc T-test was used to compare the mean values between 2 groups.

Results: There was no statistically significant difference in the mean ages and gender distribution among the 3 groups. After comparing latency and amplitude mean values, it has been found that S1 amplitude in the group 1 was significantly smaller than in the group 2 ($p=0.037$). There were no differences in other groups' analysis. The mean S2/S1 ratio was 0.82 ± 0.45 in the group 1, 0.57 ± 0.41 in the group 2 and 0.44 ± 0.27 in the group 3. ANOVA showed significant difference in these ratios ($p=0.003$). When comparison between two groups was done, it has been found significant difference in the findings of the group 1 in the relation to group 2 ($p=0.045$) and 3 ($p=0.001$). There was no statistically significant difference between groups 2 and 3 ($p=0.182$). The S1-S2 means difference was significant only in the comparison of the groups 1 and 3 ($p=0.007$). However, there was a very strong tendency in the S1-S2 analysis of the groups 1 and 2 ($p=0.067$). There was no relation among BPRS scores and S2/S1 ratio, S1-S2 difference, S1 and S2 P50 amplitude and latency.

Conclusion: This study showed P50 suppression impairment in schizophrenics in use of typical antipsychotics. It was not found a relation among BPRS scores and P50 parameters. On the other hand, P50 suppression was significantly better among patients with schizophrenia in use of clozapine than in use of typical antipsychotics.

KEY WORDS: antipsychotics, clozapine, P50 evoked potentials, schizophrenia.

* Efeito da clozapina e dos antipsicóticos típicos na supressão do potencial evocado P50 em pacientes com esquizofrenia (Resumo). Dissertação de Mestrado, Pontifícia Universidade Católica do Rio Grande do Sul (Área: Neurociências). Orientador: Jaderson Costa da Costa.

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ENDOSCOPIC THIRD VENTRICULOSTOMY FOR NORMAL PRESSURE HYDROCEPHALUS. (ABSTRACT)*. **DISSERTATION. SÃO PAULO, 2002.**

JOÃO GUALBERTO SOUZA CARVALHO**

We retrospectively have analyzed the clinical and radiological data of 15 patients diagnosed with Normal

Pressure Hydrocephalus (NPH). The patients were selected on clinical and CT/RM basis for endoscopic third

ventriculostomy (ETV) instead of ventriculoperitoneal shunt (VPS). Their age ranged from 48 to 78 years and there had 10 males, 5 females.

Gait disturbance, mental deterioration and urinary incontinence were present in all but two patients. The 15 patients have undergone ETV as single and only treatment for their NPH. The follow-up was performed by an independent neurologist who evaluated the mental status pre and post op. The gait disturbance was evaluated by an independent physical therapist. The follow up ranged from 11 to 37 months. Two patients

had surgical complications following ETV (intracerebral haematoma and cronic subdural haematoma) that were properly treated.

There was no mortality in this group. Vast majority of patient had other associated clinical disease, mainly high blood pressure, coronary heart disease and diabetes. 13 patients in this group showed improvements after the procedure, followed by later deterioration to pre-morbidus status. Two patients showed no improvement.

KEY WORDS: endoscopic third ventriculostomy, normal pressure hydrocephalus.

*Terceiro ventriculostomia endoscópica na hidrocefalia de pressão normal (Resumo). Dissertação de Mestrado. Universidade Federal de São Paulo (Area: Neurocirurgia). Orientador: Sérgio Cavalheiro.

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TENSION TYPE HEADACHE - CLINICAL STUDY (ABSTRACT)*. DISSERTATION. NITERÓI, 2001.

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Clinical aspects of 100 patients with tension type headache (TTH) were analysed, 50 of them with episodic and 50 with chronic headache. The casuistry studied was made up of 40 women (80%) and 10 men (20%) with episodic TTH and 39 women (78%) and 11 men (22%) with chronic TTH. The average ages were 30 years in the episodic and 42 years in the chronic group. The diagnosis of TTH and its two clinical presentations was based on the Headache Classification Committee of The International Headache Society (1988).

With regard to clinical aspects, we noted that the constrictive type predominated (84% of the sample), but pulsating pain was found in a small group of patients (1% of the episodic TTH group and 10% of chronic). Nausea was the related phenomenon most com-

monly reported among those with episodic TTH (20%) and photophobia was among chronic TTH patients (28%). Although bilateral pain predominated, unilateral location was also present (10% of episodic and 8% of chronic TTH). We observed that TTH can come in intense crises (16% of episodic and 14% of chronic patients) and that the impact on work activities was substantial. The presence of symptoms of depression was important in both groups (32% of episodic TTH and 40% of chronic TTH). The presence of anxiety was also significant (60% of episodic TTH and 44 % of chronic TTH).

We concluded that the impact of TTH on the individual and society should be reconsidered and is more substantial than has been reported to date.

KEY WORDS: episodic tension type headache, chronic tension type headache, clinical aspects.

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