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CLINICAL FEATURES, DIAGNOSIS AND TREATMENT OF ACUTE PRIMARY HEADACHES AT AN EMERGENCY CENTER

Why are we still neglecting the evidence?

Facundo Burgos Ruiz Jr[1], Márcia Silva Santos[1], Helen Souto Siqueira[1], Ulisses Correa Cotta[1]

ABSTRACT - In order to analyze the clinical features, approach and treatment of patients with acute primary headaches seen at the Clinics Hospital of the Federal University of Uberlândia (HC-UFU) throughout 2005, the medical charts of 109 patients were evaluated through a standardized questionnaire as to age, gender, main diagnosis, characteristics of the headache attacks, diagnostic tests and treatment. Probable migraine was the most common type of primary headache (47.7%), followed by probable tension-type headache (37.6%), unspecified headache (11.9%), and headache not elsewhere classified (2.8%). As to characteristics of the crisis, the location of the pain was described in 86.2% of the patients. The most commonly used drugs for treatment of acute headache attacks were dipyrone (74.5%), tenoxicam (31.8%), diazepam (20.9%), dimenhydrate (10.9%), and metochlopramide (9.9%). The data collected are in agreement with those reported in literature. In most cases, treatment was not what is recommended by consensus or clinical studies with appropriate methodology. Therefore, we suggest the introduction of a specific acute headache management protocol which could facilitate the diagnosis, treatment and management of these patients.

KEY WORDS: headaches, diagnostic approach, treatment.

Características clínicas, diagnóstico e tratamento das cefaléias primárias agudas em um serviço de emergência. Por que ainda negligenciamos as evidências?

RESUMO - Com o objetivo de avaliar as características clínicas, abordagem e tratamento das cefaléias agudas primárias atendidas no Hospital de Clínicas da Universidade Federal de Uberlândia (HC-UFU) no ano de 2005, 109 prontuários foram analisados através de questionário padronizado, segundo idade, sexo, diagnóstico principal, características das crises, propedêutica e tratamento. A distribuição dos pacientes quanto ao tipo de cefaléia foi a seguinte: provável enxaqueca 47,7%, provável cefaléia tensional 37,6%, cefaléia não classificada 11,9% e cefaléia não classificada em outro local 2,8%. No que tange às características da crise, a localização da dor foi descrita em 86,2% dos pacientes. No tratamento dos pacientes com crise aguda de cefaléia, as drogas mais utilizadas foram: dipirona (74,5%), seguido de tenoxicam (31,8%), diazepam (20,9%), dramin® (10,9%) e metoclopramida (9,9%). Os dados levantados são condizentes com os relatados na literatura. O tratamento efetuado, na maioria dos casos, não foi o recomendado por consensos ou estudos clínicos com metodologia aceitável. Recomendamos, portanto, a introdução de um protocolo específico para o atendimento das cefaléias agudas, o que facilitará o diagnóstico, tratamento e manejo destes pacientes.

PALAVRAS-CHAVE: cefaléias, propedêutica, tratamento.

An epidemiological understanding of primary headaches is important and necessary in order to evaluate the impact of such a disease on society, especially since it is one of the major complaints in clinical practice[1]. Even so, epidemiological studies are rare, especially in Brazil[2].

The aim of this study was to analyze the clinical features, diagnostic approach and treatment of patients with acute primary headaches treated at the Federal University of Uberlândia Clinics Hospital (HC-UFU) Emergency Department during 2005, based on the existence of a Brazilian Headache Society (SBCe)

[1]Clinics Hospital of the Federal University of Uberlândia, Uberlândia MG, Brazil.

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Dr. Facundo Burgos Ruiz Junior - Avenida Marcos de Freitas Costa 105 - 38400-328 Uberlândia MG - Brasil. E-mail: facundo_burgos@uol.com.br

guideline for management of primary headaches, adopted in 2002, which could lead to more uniform interventions.

METHOD

A total of 1,400 medical charts were selected from patients presenting to the HC-UFU Emergency Department during the year of 2005, with headache as the primary complaint. Most of them (1,109 patients) were excluded since their headache represented a secondary process, and only one was a cervicogenic headache. Among the 291 patients diagnosed with primary headaches, 182 were eliminated since their initial evaluations were not on medical chart records or because other disorders were mistakenly classified 77 primary headaches. Patients records (109) were evaluated by means of a standardized questionnaire as to age, gender, principal diagnosis, characteristics of the headache attacks, tests and treatment. The diagnosis taken into account by this study was the one made by the physician on call on the day of the patient's initial evaluation. The present study could not evaluate if the physician's diagnosis would adequately satisfy the International Classification of Headaches Disorders (ICHD-II) criteria, since most of the consultation records did not contain the information necessary to accurately classify the headache. The patients selected to participate in this study spontaneously sought medical care, and this study had the approval of the institution ethical committee.

RESULTS

For both genders the mean age was 34.1±25.4 (ranging from 7 to 65 years of age) and the mean age group was 21-50 years of age. Among the cases selected, 5.4% (10) were under 10 years of age, and probable migraine was the most prevalent (50%) headache type in this age group.

The distribution of the patients regarding gender and headache type is displayed on Table 1.

As for the headache characteristics, 86.4% (94) of the patients described their pain location (100% of not elsewhere classified headaches, 94.2% of probable migraines, 80.5% of probable tension-type headaches, and 69.2% of unspecified headaches). When only probable migraine cases (52) are taken into account, 40.8% (21) were classified as hemicranial. Occipital pain was prevalent in 24.2% (10) of the probable tension-type headaches.

The duration (from onset until consultation) was informed in 67.2% (73) of the medical charts. Of these, 79.7% (58) lasted longer than 4 hours. Among the patients with probable migraine, 13.4% (7) were described as having an aura or had been diagnosed as having a migraine with an aura. In 3 of the charts, aura types were not described, and the duration and onset were not reported in any of the charts. Three patients had scotomas and one had paresthesia (with no specified location) as manifestations of an aura. All were females.

The arterial blood pressure (ABP) was informed in 74.5% (81) of patient records, showing elevation (>120/80 mmHg) in 50% (40) of these. Patients with probable tension-type headaches had the greatest rates of altered ABP (60%), followed by those with the probable migraine type (40%).

Diagnostic workup was requested for 15 patients, accounting for 13.6% of the total. The most requested tests were computed tomography of the head (CT) in 7 patients, followed by complete blood count (6 patients) and X-rays of the facial sinuses (2 patients). An electroencephalogram (EEG) was ordered in one case, besides all the other laboratorial studies. All the requested test results were described as normal except for one head CT (result not described).

Table 2 shows the drugs identified as those most frequently used in this study for probable acute migraines.

The most frequently used combination of drugs for the probable acute migraine type was dipyrone plus tenoxicam (7/13.2%), followed by dipyrone plus metochlopramide (6/11.3%), and dipyrone plus tramadol plus propoxyphene (3/5.6%).

The most commonly used medications for treating probable tension-type headaches were dipyrone (31/75.6%), diazepam (14/34.1%), tenoxicam (13/31.7%), tiochlochicoside (6/14.6%), and dichlofenac sodium (2/5.7%).

Table 1. Patient distribution according to headache type and gender.

	Female		Male		Total	
Headache type	N	%	N	%	N	%
Probable migraine	39	75	13	25	52	47.7
Probable tension-type headache	31	75.6	10	24.4	41	37.6
Headache unspecified	10	76.9	3	23.1	13	11.9
Headache not elsewhere classified	2	66.7	1	33.3	3	2.8
Total	82	75.2	27	24.8	109	100

Table 2. Medications used to treat probable acute migraines in 52 patients.

Medication	PO	SC	IV	IM	Total	Patients (%)
Dipyrone	1	0	41	0	42	80.8
Tenoxicam	0	0	15	0	15	28.8
Metochlopramide	0	0	4	4	8	15.4
Dimenhydrate	1	0	5	0	6	11.5
Diazepam	5	0	0	0	5	9.6
Tramadol	0	3	2	0	5	9.6
Diclofenac sodium	0	0	1	2	3	5.7
Propoxyphene	3	0	0	0	3	5.7
Chlorpromazine	0	0	2	0	2	3.8
Butylscopolamine	1	0	0	0	1	1.9
Dexamethasone	0	0	0	1	1	1.9
Haloperidol	0	0	1	0	1	1.9
Levomepromazine	1	0	0	0	1	1.9
Acetaminophen	1	0	0	0	1	1.9
Total	13	3	71	7	94	52

The most frequently used combinations for probable tension-type headaches were dipyrone plus diazepam (4/9.7%), dipyrone plus tenoxicam plus diazepam (4/9.7%), dichlofenac plus tiochlochicoside (2/4.8%), dipyrone plus tenoxicam (2/4.8%), and dipyrone plus tenoxicam plus tramadol (2/4.8%).

Only 27.3% (30) of the patients received orientation as to interruption treatment of a new attack (15 probable migraines, 13 probable tension-type headaches, and 2 unspecified headaches). Common analgesics and non-steroidal anti-inflammatory drugs (NSAIDs) were the most commonly prescribed agents (18), indicated in 66.7% (10) of the migraine cases and 46.1% (6) of the tension-type headaches. Triptans were prescribed for only one patient with an unspecified headache. Other medications used include benzodiazepines for tension-type headaches, and ergot derivatives and pizotifen for migraines.

Prophylactic treatment was indicated for 5 patients with the probable migraine type of headache (9.6%). Propranolol was used in 4 cases and flunarizine in 1 case. Among the total of patients studied, 24.5% (26) were referred to outpatient care, half of them (13) diagnosed as migraineurs. Patients with probable tension-type headaches did not receive orientation for prophylactic treatment.

DISCUSSION

Most of the affected patients belonged to the age group typical of the period of life when social-economic productivity peaks. When considering the incidence in children (up to 10 years of age), other studies have found similar rates, varying from 4 to 10%[1,3]. The majority of the patients had headaches lasting longer than 4 hours, substantiating the theory that patients with more severe and prolonged pain are the ones who seek health centers[2].

According to the SBCe, patients who seek treatment for an acute headache attack at an emergency department are not suffering from their usual headaches, indicating the possibility of a secondary process[4,5]. When warning signs and/or symptoms are found, adequate diagnostic workups should be carried out, including head CT, CSF analysis, other laboratorial tests, and skull X-rays. Based on such information, all the tests requested at our institution were compliant with the Consensus Guideline[4], except for EEG.

Even though we found a link between slight ABP elevation and headache in half of the patients, there is no data in medical literature confirming such a fact. None of the patients had clinical features indicating hypertensive encephalopathy, since headaches did not occur only during hypertensive episodes and there were no pregnant participants. Therefore, we cannot classify these headaches as secundary to hypertension.

Migraine has also been the most frequent headache type found in studies performed in Brazilian tertiary-care centers, ranging from 38 to 45.1%[2,6,7]. It is important to note that the patients selected in the present study sought medical care spontaneously. Such a fact leads to a sample of patients who suffer from more intense headaches, such as migraines, which explains the predominance of this type of headache when Emergency Department data are analyzed[2]. Additionally, the present study could not evaluate if the physician diagnoses could adequately satisfy the International Classification of Headache Disorders (ICHD-II)[8] criteria, since most of the consultation records did not contain the information necessary for an accurate classification of the headache[9,10].

Most of the probable migraine cases were classified as hemicranial, confirming the findings of Kelman[11], and few of them were described as having an aura or had the diagnosis of a migraine with an aura, similar to what was verified by Launer[12].

The SBCe suggests the use of common analgesics (aspirin, acetaminophen and dipyrone, or non-steroidal anti-inflammatory agents) for weak migraine attacks. It also recommends the use of metochlopramide or domperidone when symptoms of nausea or vomiting are associated[4].

The treatment for probable migraines given at our institution was based almost exclusively on the use of common analgesics (class III for the treatment of weak and moderate attacks)[4] and NSAIDs (class I for weak attacks)[4]. There was not enough data in the medical charts informing the intensity of attacks, although some studies suggest that patients who seek treatment for an acute headache attack at an emergency department are not suffering from their usual headaches, indicating more severe crises[4]. We should point out that the analyzed institution is financed by the public health system, and drugs like triptans are not available for use in moderate and severe attacks. Bigal[13] reports that in most Brazilian emergence units, triptans are not available, which could explain the excessive use of common analgesics. Despite the availabity at this institution of drugs such as chlorpromazine (class I) [4], haloperidol (class II) [4], and dexamethasone (class II) [4], the fact that only an insignificant amount of patients with moderate or severe headaches received such drugs is quite intriguing. In one patient, pizotifen was prescribed for the acute attack. It should be noted that this drug is only indicated for prophylactic treatment of migraines and has no effect on acute attacks[14], therefore constituting a misindication.

Considering the patients for whom prophylactic treatment was suggested, the use of beta-blockers and calcium-channel-blockers is in agreement with the SBCe recommendations[14]. Beta-blockers have been used for over 25 years and are first-line drugs for treating non-asthmatic patients. Calcium-channel-blockers are also used in migraine prophylaxis, and flunarizine is the only one with proven anti-migrainous action[15].

Probable tension-type headaches were the second most common primary headaches at our institution. The high incidence of this kind of headache at our center could be explained by the easy access the patients have to the institution, since most of them come from primary health care units. Reports in medical literature show that patients with tension-type headaches turn to health care units less frequently[16].

Occipital pain prevailed in probable tension-type headaches, but there is no specific up-to-date reference to such a fact in medical studies focusing on exact pain location in this kind of primary headache, although according to the ICHD-II[4] criteria, pain is mostly holocranial in such headaches.

It can be observed that probable tension-type headaches were preferably treated with common analgesics. The SBCe suggests that NSAIDs represent first-line drugs, allowing a critique of the protocol observed, for these drugs are available in the Brazilian public health system[4].

In conclusion, the data collected at the HC-UFU Emergency Department are in agreement with medical literature reports, although some uncertainty regarding compliance with diagnostic criteria remains. Despite the existence of guidelines and clinical studies with acceptable methodology since 2002, the vast majority of patients were not treated according to SBCe recommendations. So, why are we still neglecting the evidence? We therefore recommend the creation of a specific acute headache management protocol, which would facilitate diagnosis, treatment and management of such patients, and would aid future epidemiological surveys within the institution.

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