ORIGINAL ARTICLE

ANALYSIS OF PRIMARY HEADACHES MANAGEMENT IN POLTAVA REGIONS

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ABSTRACT

The aim: Assess quality of diagnosis and treatment of primary headaches (PH) in Poltava region.

Materials and methods: There were examined 195 patients with PH who were previously consulted by different specialists due to headaches. We analyzed previously established diagnoses, previous consultations and prescribed investigations due to headache, drugs that were prescribed for headache treatment.

Results: The misdiagnoses of PH were made due to considering the headache as secondary (as sign of dyscirculatory encephalopathy, arterial hypertension, autonomic dysfunction, cervical ostheochondrosis). Patients older 40 years were misdiagnosed more often with dyscirculatory encephalopathy, while patients under 40 years were more frequently misdiagnosed with autonomic dysfunctions. Patients sought medical help for headache problem and were repeatedly examined by different specialists (general practitioner, neurologist, cardiologist, ophthalmologist, oyorhinolaryngologist, neurosurgeon). Doctors prescribed a large number of identical uninformative neuroimaging and neurofunctional methods regardless of PH nosologies. Also it had been often prescribed therapy with the use of vascular, metabolic, nootropic drugs without specific pathogenetic effects for PH.

Conclusions: It is necessary to improve the diagnosis and treatment of PH according to international standards by raising awareness among general practitioners, neurologists and other specialists about the basics of PH diagnosis and treatment.

KEY WORDS: primary headaches, misdiagnosis, investigations, treatment

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INTRODUCTION

Epidemiological studies conducted in the general population point to average headache prevalence rates of 46% for 1-year prevalence and of 64% for lifetime prevalence [1]. Numerous epidemiological studies conducted over the past decades in most countries of the world, have confirmed the prevalence (90-95%) of primary headache (PH) over secondary ones [2]. PH lead to loss of patients' productivity, to decreases of life quality, to insufficient social, household and labor adaptation, etc [3, 4]. In post-soviet countries including Ukraine, there are still a problem in providing quality medical care to patients with PH, mostly due to inadequate diagnosis and treatment [5]. Not only general practitioners but also many neurologists till now misunderstand the mechanism of PH, considering PH as a symptom of another disease. On the other hand, very often headache sufferers after ineffective consultations lose confidence in doctors and begin to self-medicate [6, 7]. So, for improvement of PH management it is necessary to provide a thorough analysis of typical errors in PH diagnosis and treatment.

THE AIM

The purpose – to assess quality of diagnosis and treatment of PH in Poltava region.

MATERIALS AND METHODS

The study sample comprised the 195 patients who were consulted in educational, diagnostic and treatment center for patients with PH at department of neurological diseases with neurosurgery and medical genetics of Ukrainian medical stomatological academy. The PH diagnoses were established according to The International classification of headache disorder 3rd edition [8]. We analyzed all cases by unified algorithm that included personal data, previously established diagnoses, previous consultations and prescribed investigations due to headache, drugs that were prescribed for headache treatment.

RESULTS AND DISCUSSION

It had been examined 49 cases of episodic migraine (EM), 15 – of chronic migraine (CM), 93 – of episodic tension-type headache (ETTH), 34 – of chronic tension type headache (CTTH) and 4 – of episodic cluster headache (ECH).

As can be seen from Table 1 among patients with EM, CM and CTTH predominated females whereas patient with ECH were exclusively males. Almost all patients were of working age and majority of patients were within most productive age (in fourth or fifth decades of life). In addition, an important feature is the fact that majority of patients with migraine and TTH had a long disease duration (more than 5 years).

Table 1. Characteristics of the study sample

Patients' characteristics		Headache type				
		EM	CM	ETTH	CTTH	ECH
gender	male	14 (29%)	2 (13%)	45 (48%)	11 (32%)	4 (100%)
	female	35 (71%)	13 (87%)	48 (52%)	23 (68%)	-
structure by age, years	18-30	16 (33%)	1 (7%)	11 (12%)	3 (9%)	-
	31-40	20 (41%)	7 (45%)	25 (27%)	9 (26%)	2 (50%)
	41-50	9 (18%)	4 (27%)	32 (34%)	8 (24%)	2 (50%)
	51-60	4 (8%)	3 (20%)	20 (22%)	12 (35%)	-
	61-70	-	-	5 (5%)	2 (6%)	-
headache duration, years	< 1	6 (12%)	-	7 (7%)	-	-
	1-5	14 (29%)	1 (7%)	38 (41%)	3 (9%)	3 (75%)
	5-10	20 (41%)	6 (40%)	37 (40%)	18 (53%)	1 (25%)
	> 10	9 (18%)	8 (53%)	11 (12%)	13 (38%)	-

Table 2. Previous diagnoses of patients with PH

Previous diagnosis	Headache type				
	EM	CM	ETTH	CTTH	CH
migraine	9 (18%)	-	6 (7%)	1 (3%)	1 (25%)
TTH	-	1 (7%)	4 (4%)	2 (6%)	-
dyscirculatory encephalopathy	12 (24%)	5 (34%)	18 (20%)	7 (21%)	-
arterial hypertension	5 (10%)	2 (13%)	16 (17%)	4 (12%)	-
arachnoiditis	-	2 (13%)	1 (1%)	2 (6%)	-
autonomic dysfunction	14 (29%)	2 (13%)	35 (37%)	13 (39%)	2 (50%)
cervical ostheochondrosis	7 (15%)	3 (20%)	12 (13%)	5 (13%)	-
occipital neuralgia	2 (4%)	-	1 (1%)	-	-
trigeminal neuralgia	-	-	-	-	1 (25%)

Table 3. Previous misdiagnoses in patients of different age groups

Previous false diagnosis	Final diagnosis			
	migraine		TTH	
	age ≤ 40 years	age > 40 years	age ≤ 40 years	age > 40 years
migraine	-	-	2 (5%)	5 (6%)
TTH	1 (3%)	-	-	-
dyscirculatory encephalopathy	4 (11%)	13 (69%)	2 (5%)	23 (31%)
arterial hypertension	6 (16%)	1 (5%)	5 (11%)	15 (19%)
arachnoiditis	2 (6%)	-	1 (2%)	2 (3%)
autonomic dysfunction	15 (42%)	1 (5%)	30 (68%)	18 (23%)
cervical ostheochondrosis	6 (16%)	4 (21%)	3 (7%)	14 (18%)
occipital neuralgia	2 (6%)	-	1 (2%)	-

Table 2 demonstrate that the misdiagnoses of PH were made due to considering the headache as secondary (as sign of another disease). As a rule, inadequate diagnosis of PH is the result of ignorance and (or) non-use of International Classification of Headache Disorders. Doctors often make diagnoses that are not included in the International classification of diseases (for example, vegetative dystonia, discirculatory encephalopathy). Diversity and difference of the symptoms of certain PH nosologies do not determine variety of the false diagnoses (structures of the misdiagnoses in patients with different types of PH is more or less identical). For a deeper understanding of the logic of the misdiagnoses we analyzed structure of previous false diagnoses depending on patients age. For this purpose, we have combined all migraine cases as well as all TTH cases.

Table 4. Previous specialist consultations due to headache

Specialist	Headache type				
	EM	CM	ETTH	CTTH	ECH
general practitioner	8	1	15	5	-
neurologist	41	14	78	29	-
cardiologist	16	4	27	9	-
ophtalmologist	10	4	25	4	2
otorhinolaryngologist	3	1	6	2	2
neurosurgeon	-	-	-	-	1

Table 5. Previous investigations due to headache

Investigations	Headache type				
	EM	CM	ETTH	CTTH	CH
head computed tomography	3 (6%)	-	4 (4%)	4 (12%)	-
head magnetic resonance imaging	15 (31%)	9 (60%)	39 (42%)	20 (59%)	3 (75%)
cervical X-ray	7 (14%)	1 (7%)	11 (12%)	5 (15%)	-
rheoencephalography	22 (45%)	9 (60%)	57 (62%)	26 (76%)	1 (25%)
electroencephalography	4 (8%)	2 (13%)	13 (14%)	7 (21%)	1 (25%)
ultrasound of cerebral vessels	8 (16%)	3 (20%)	15 (16%)	9 (26%)	1 (25%)
electrocardiography	13 (27%)	4 (27%)	29 (32%)	7 (21%)	-
blood analysis	6 (12%)	2 (13%)	10 (11%)	5 (15%)	-
urine analysis	2 (4%)	2 (13%)	4 (4%)	2 (6%)	-
blood biochemistry	5 (10%)	3 (20%)	7 (8%)	5 (15%)	1 (25%)

Table 6. Previous prescriptions of drug groups due to headache

Drug groups	Headache type				
	EM	CM	ETTH	CTTH	ECH
diuretics	2 (4%)	1 (7%)	-	2 (6%)	1 (25%)
antihypertensive	6 (12%)	4 (27%)	18 (19%)	10 (29%)	-
antithrombotics	11 (22%)	5 (33%)	16 (17%)	6 (18%)	-
statins	4 (8%)	3 (20%)	13 (14%)	4 (12%)	-
antidepressants	7 (14%)	3 (20%)	20 (22%)	8 (24%)	-
anxiolytics	8 (16%)	2 (13%)	11 (12%)	7 (21%)	1 (25%)
sedatives	10 (20%)	4 (27%)	9 (10%)	9 (26%)	2 (50%)
nootropic	13 (27%)	6 (40%)	22 (24%)	10 (29%)	1 (25%)
cardiac	15 (31%)	5 (33%)	19 (20%)	15 (44%)	1 (25%)
non-steroid anti-inflammatory	9 (18%)	4 (27%)	10 (11%)	5 (15%)	1 (25%)
combined analgetics	7 (14%)	1 (7%)	5 (5%)	3 (9%)	1 (25%)
triptans	5 (10%)	-	3 (3%)	1 (3%)	1 (25%)
anticonvulsants	1 (2%)	-	1 (1%)	-	1 (25%)

As we can see in Table 3, patients older 40 years were misdiagnosed more often with dyscirculatory encephalopathy, while patients under 40 years were more frequently misdiagnosed with autonomic dysfunctions. Thus, an identical clinical picture was interpreted differently depending on patients' age.

Patients were consulted more than 3 times by different specialists in 16 cases of EM (33%), in 13 cases of ECH (87%), in 56 cases of ETTH (60%), in 22 cases of CTTH (65%) and in 3 cases of ECH (75%).

As can we see from Table 4, patients sought medical help for headache problem and were repeatedly examined by different specialists. Significant number of different consultations were the cause, and also the reason of the incorrect diagnoses in patients with PH.

Table 5 shows it had been prescribed a large number of identical investigations regardless of PH nosologies. According to international standards, the diagnosis of PH is entirely clinical based on the analysis of complaints,

anamnesis data, patient objective examination and does not require additional investigations. Neuroimaging and neurofunctional methods are uninformative for PH, do not reveal any pathology and could not indicate the cause or mechanism of headache. For example, it was shown that in patients with normal neurological status, the informative value of computed tomography and magnetic resonance imaging is less than 2% [9]. Excessive prescription of additional investigations without any indications leads to erroneous conclusion about a causal relationship between the detected nonspecific changes and headache, is basis for overdiagnosis of secondary cephalalgias and for prescription of unreasonable treatment. Moreover, additional examinations are prescribed without specific indications, as if "out of habit".

From the point of evidence-based medicine, among the listed agents, only analgesics and triptans can be used for abortive treatment of headaches. But on the other hand, it was recorded relatively large number of *abuse headache cases due to* chronic overuse of medications for abortive treatment of headache (15 cases due to non-steroid anti-inflammatory drugs usage, 11 cases due to combined analgetics usage, 3 cases due to triptans usage and 4 cases due to simultaneous usage of non-steroid anti-inflammatory drugs and triptans). Important is the fact that in cases of correct migraine or TTH diagnosis, preventive treatment for PH was never prescribed.

The establishment of false diagnoses is the basis for the appointment erroneous therapy with the use of vascular, metabolic, nootropic drugs without specific pathogenetic effects for PH. Moreover, prescribed drugs of various groups could lead to polypharmacotherapy and to various side effects (possibly in the form of a headache).

CONCLUSIONS

1. Among the doctors of Poltava region, as well as throughout Ukraine, management of PH is at an insufficient level.
2. It is necessary to improve the diagnosis and treatment of PH according to international standards by raising awareness among general practitioners, neurologists and other specialists about the basics of PH diagnosis and treatment.

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