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Clinical-Neurological Characteristics of Abuse Headaches in Primary Headaches

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(Received: 07	7 October 2023	Revised: 12 November	Accepted: 06 December)
KEYWORDS migraine, tension headache, abuse headache, risk factors	ABSTRACT: This article discu headaches such as diagnosis and pre origin and develo factors in their ori and neurological	asses the origin, clinical and neurologic s migraine and tension-type headaches, a evention of this disease. shown. Until no pment of abuses headache, the role and gin have not been fully elucidated. In the features of abuse headaches in primary l	cal features of abuses headache in primary as well as the principles of correct and early ow, although there is information about the l importance of primary headaches and risk ese cases, it is necessary to study the clinical headaches.

INTRODUCTION

An estimated 3 billion people worldwide suffer from some type of headache disorder [1]. Most patients are people of socially active age [2], therefore, it is important to find and introduce new methods for the prevention of secondary headaches, the treatment of chronic headache diseases, the improvement of the patients' productivity, and the preservation of the quality of life. is enough. According to the International Classification of Headache Disorders, a headache lasting \geq 15 days for 3 consecutive months is called a chronic headache.

When observing patients with a diagnosis of chronic headache and chronic migraine, it can be seen that they have a history of long-term prophylactic use of painkillers and the presence of additional comorbidities. [4,5]. Headache chronicity has not been fully studied, but it is associated with pain medication abuse in several patients. Nearly three-quarters of patients with SM are found to be overmedicated, making up the majority of them and it can be observed that these patients did not take these drugs under the supervision of a doctor. ICHD-3 abuse headache (medication overuse headache)-(I) use of two or more classes of triptans, ergotamine, opioids, or combined analgesics for at least 10 days per month 3 defined as headache secondary to the use of more than a month or (II) the use of non-steroidal antiinflammatory drugs (NSAIDs) or paracetamol for at least 15 days per month for more than 3 months [3]. According to studies, women aged 40 years are affected by this

disease three to four times more often than men [6, 7], and this ratio varies to the same extent in different countries. [7]. AH is often the result of long-standing chronic headache disorders and mainly the development of SM [8]. Whether AH is secondary to medication overuse or whether AH is a consequence of chronic headache disorders is a matter of debate [9]. Some risk factors associated with DSQBO [10] include genetic predisposition, low education level. chronic gastrointestinal diseases, smoking, high caffeine intake, lack of physical activity, and psychiatric comorbidities such as depression and anxiety [6]. Any diseases that require frequent intake of various analgesics due to chronic pain can also cause DSQBO [7]. Although it has previously been suggested that there is a common pathway between DSQ and drug dependence (addiction) [11], our main goal in this paper is to investigate other associations between DSQ and primary headaches. is to identify and clarify.

Although AH is common throughout the world, the highest prevalence was in Russia (7.6%) [9,10]. The disease is more common in middle-aged women (E:A 1:3-4), but also occurs in 21% to 52% of children with chronic headaches and 35% of adults over 64 years of age with headaches. It is also observed in people suffering from rickets [11-14]. AH is common in people with primary headache disorders, especially chronic migraineurs, with an estimated prevalence of 11% to 70% [2]. Although AH is more common as a result of

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migraine and tension-type headaches, cluster headache disorders may occur if patients have a personal or family history of migraine and persistent daily headaches. It is also described to be observed in patients with.

Diagnosis:

The diagnosis of AH is based entirely on clinical criteria. 1. History of headache (migraine, tension headache, and headache.);

2. Anamnesis of taking analgesics;

3. Frequency of taking analgesics.

Most often, AH develops against the background of chronic migraine and chronic tension headache with regular use of analgesics 2-3 times a week. In general, some patients underestimate their analgesic consumption and may misrepresent the amount of pain medication used. When asking the patient about the medical history, it is necessary to inquire about the mechanism of AH development and the role of chronic headaches. At the same time, it is necessary to involve the patient in each of the stages of diagnosis, treatment, and prevention.

According to the International Classification of Headache Disorders (ICHD III, 2013), the diagnosis of AH is made when there is a chronic headache for 15 or more days per month against the background of abuse of one or more types of painkillers. [15]

The duration of analgesic overdose required for the development of AH also varies among different drug classes [16]. Compared with ergotamine and combined analgesics, triptans have been used in lower amounts and durations for migraine chronification and AH development. The time interval between onset of drug abuse and development of AH: -1.7 years for triptans, -2.7 years for ergotamine, and -4.8 years for combined analgesics [17]. Some clinical characteristics of AH also depend on the classes of analgesic drugs being abused. During the abuse of triptans, daily headaches can become

migraine headaches and (or) an increase in the frequency of typical migraine attacks.

When AH drugs were canceled, the intensity and duration of headache against the background of triptans (4.1 days) were less than that of combined analgesics (9.5 days; r < 0.002) and ergotamines (6.7 days). [18].

In most cases, AH develops when taking regular analgesics 2-3 or more times a week against the background of SM or SZBO.

Summarizing the data of the conducted studies, it is possible to distinguish three groups of analgesics depending on their role in the development of AH:

1. There is a high risk of developing chronic H and AH (opioids, barbiturate-containing combined analgesics, and aspirin-paracetamol-caffeine combination).

2. Medium and low risk (triptans).

3. Lower risk (NSYQV, paracetamol).

Education remains the single most important way to prevent AH. It is important to counsel patients with frequent episodic migraine or tension-type headaches early to avoid overuse of medications, especially common over-the-counter analgesics. Patients are encouraged to keep a headache diary to record the frequency of pain medication use or "pain days". Physicians should prescribe opioids and triptans only in doses that prevent the development of abuse headaches. Of course, sometimes this is difficult to achieve, especially if there are comorbidities that require regular analgesia. Patients often admit to overdosing, but at this point, they are already in a period of drug addiction. Physicians should consider using a UASh/Patient Letter (document) to document how to prevent abuse headaches. [19].

The most recognized risk factor for the development of AH is the frequency of use of various medications for the treatment of primary headaches. Epidemiological studies have shown a correlation between AH and the frequency of taking various drugs. [19]

FREQUENCY OF DRUG USE AS AH CAUSE				
Drug category	The frequency that can lead to AH			
Common analgesics	\geq 15 days/month			
Combined analgesics	$\geq 10 \text{ day/months}$			
Opioids	≥ 10 day/months			
Ergotamine	$\geq 10 \text{ day/months}$			
Triptans	$\geq 10 \text{ day/months}$			

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Any combination of the above without overusing a single	$\geq 10 \text{ day/months}$			
class				
Abbreviation: AH-abuse headache				

There are also a number of other risk factors, including migraine or tension-type headache, female gender, comorbid psychiatric disorders (such as depression and/or anxiety), and primary headache. patients with the disease can be found [20]. The results of a prospective population-based study showed that people who did not have chronic daily headaches at the beginning of the study had higher rates of ABO development in migraineurs after 11 years of follow-up. [21]. AH risk factors include: 7-14 days/month with headache compared to 7-14 days/month without headache, female sex, age younger than 50, and low education.

Although the pathogenesis of AH is not well understood, it can be said that it is closely related to chronic migraine. Many people abuse different analgesics for various chronic headaches or general pain conditions because they don't know that AH problems can develop over time. Therefore, education and information are important in preventing its development. Diagnosis is not always easy, and headache diaries play an important role in making the correct diagnosis. Although some patients self-limit the dose of analgesics, this certainly requires support. Physicians should give recommendations on their limitations according to the class of drugs [22-28].

Purpose: Predict abuses headache in migraine and tension-type headaches.

Methods:

The study was conducted in the city of Tashkent, Republic of Uzbekistan, in the period from 2022 to 2023, among patients receiving treatment on an outpatient basis. All examined patients voluntarily agreed to participate in the study.

Patients included in the study were selected using the following criteria.

Selection criteria for Group 1:

1. Patients are 18-55 years old.

2. Patients with abusing headaches caused by migraine

Selection criteria for Group 2:

1. Patients are 18-55 years old.

2. Patients with abuse headaches caused by tension headache disease

Exclusion criteria of patients included in the study:

1. Pregnant and lactating women

2. Patients with concomitant severe somatic diseases

3. Patients with epilepsy

4. Patients with diseases such as mental illness, alcoholism, drug addiction

5. Patients with organic diseases of the brain

Subject Recruitments

During the study, 50 people with migraine headaches and 32 people with tension headaches were observed. During the study, the diagnosis of abusive headache was made based on the 2013 diagnostic criteria of the International Headache Society (ICHD-3). Factors causing abuse headaches from both groups were considered.

Diagnostic criteria for abuse headache:

A. If the headache is accompanied by headaches of various forms and lasts for 15 or more days per month;

B. if he abuses one or more types of painkillers for 1, 2,
3, or more months; 1. Use of ergotamine, opioids, or combined analgesics with a frequency of 10 days or more in a month;

2. Consumption of common analgesics and NYQV with a frequency of 15 days or more per month;

International Headache Classification Criteria for Abusive Headache:
Patients with a history of headache with chronic headaches >15 days/month
Regular abuse of 1 or more drugs that may be taken for more than 3 months to treat acute or symptomatic headache
When ICHD-3 is not better explained by another diagnosis
Subclasses of AHs

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All caused by errotemine abuse	Taking argotaming regularly for more than 10 days nor		
An caused by ergotanime abuse	Taking ergolamme regularly for more than 10 days per		
	month for 3 months		
AH caused by triptan abuse	Regular use of one or more triptans, in any formulation,		
	more than 10 days per month for 3 months		
AH caused by non-opioid analgesic abuse	Taking non-opioid analgesics (NAID / ASA / Other)		
	regularly for more than 15 days per month for 3 months		
AH caused by opioid analgesic abuse	Regular use of one or more opioids more than 10 days per		
	month for 3 months		
AH caused by abuse of combined analgesics	Regular intake of one or more combined analgesics for		
	more than 10 days per month for 3 months		
AH is caused by the abuse of several classes of drugs that	Taking any combination of the above drugs regularly for		
are not used individually	more than 10 days per month for 3 months without		
	overusing any drug or drug class.		
AH caused by the abuse of several unspecified or	Regular intake of any combination of the above		
unproven drugs	medications for a total of ≥ 10 days/month for 3 months		
	without overuse of any drug or drug class.		
AH caused by abuse of other drugs	Regular overuse of one or more drugs other than 1 drug		
	used to treat acute or symptomatic headaches for more		
	than 10 days per month.		
Abbreviations: ASA - acetylsalicylic acid; ICHD-3, International			
classification of headache diseases; NAID- nonsteroid			
anti-inflammatory drugs.			

The diagnostic complex for patients with abuse headaches in both groups is as follows:

- clinical, neurological examinations
- Brain MRI or MSCT
- scale LDQ
- VASh scale to assess headache intensity
- HALT-90 index scale

Statistical Analysis

Statistical analysis was performed using GraphPad Prism 7 software. The collected data were analyzed using

Microsoft Excel. The obtained data were presented in average values, standard deviation, and percentages. Statistical threshold is considered significant at * r < 0.05, ** r < 0.01, *** r < 0.001 and *** r < 0.0001.

RESULT

The patients included in the study are of average age (from 18 to 55). Table 1 shows the age and gender distribution of the patients included in the study.

Table 1

Demographics of the inigrame neudulene partents and the tension neudulene group.				
		% of patients with AH due to	% of patients with AH due to	
		migraine (n=50)	tension headache (n=32)	
Gender	male %	16 % (8)	37,5 % (12)	
	female %	84% (42)	62,5 % (20)	
Age at the	overall	34,98±8,85	35,65±9,1	
time of				
examination	males	32,5±7,67	36,16±8,24	
	females	35,45±9,06	35,35±9,77	

Demographics of the migraine headache patients and the tension headache group:

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12% (6)



A total of 12.5 (in 10 patients) % were due to mental activity. Distribution in groups by gender is given in Table 2.

	Table 2				
Data on	mental activit	ty in patients w	ith migraine-induced AH and tension-t	ype headache-induced abuses headache:	
			% of patients with AH due to	% of patients with AH due to	
			migraine (n=50)	tension headache (n=32)	
	Gender	males %	2% (1)	12,5% (4)	
		females%	10% (5)	0% (0)	

Patients took several medications to relieve headache attacks. Among them, AH caused by migraine: triptans 1.7% (2), simple analgesics 6.1% (7), and nonsteroidal anti-inflammatory drugs 7.9% (9), it was found that AH was caused by regular abuse of patients. The main 84.2% (96) AH-inducing drugs were found to be combination analgesics. (fig.1). Of the combined drugs, nonsteroidal anti-inflammatory drugs accounted for 29% (33), and combined drugs from different groups accounted for 55.2% (63). In ABO caused by tension headache: non-steroidal anti-inflammatory drugs 15.4% (8), non-analgesic drugs

Overall

15.4% (8) in patients with regular abuse It turned out that AH originated. The main 69.2% (36) ABO-inducing drugs were found to be combined analgesics. (Figure 1) Of the combined drugs, nonsteroidal anti-inflammatory drugs accounted for 15.4% (8), and combined drugs from different groups accounted for 53.8% (28). Asosiy 60,9 % (50) bemorlar bir vaqtni oʻzida bir qancha turli guruhga mansub preparatlarni qabul qilgan (3-jadval) AHs with migraine and post-tension headaches were compared in both groups in terms of drug abuse.

12,5%(4)



Abuzus faktor analizi

Figure 1

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Table 3

In patients with migraine-induced AH and tension-type headache-induced ABO group data according to multiple drug

abuse:				
		% of patients with AH due to	% of patients with AH due to	
		migraine (n=50)	tension headache (n=32)	
Gender	Males %	12% (6)	12,5% (4)	
	Females %	64% (32)	25% (8)	
Overall		76% (38)	37,5%(12)	

Table 4
Data for patients with AH from migraine and AH groups from tension-type headache by the time of primary headache
onset

onset.				
Indicators	Migraine-induced	Patients with AH	Р	
	AH-positive	due to tension-		
	patients (n=50)	type headache		
	Migraine-induced	(n=32)		
	AH-positive			
	patients (n=50)			
Average age	35,18 ±	35,65±	=0,81	
	8,89	9,10		
Age of primary headache onset	16,62 ±	25,40±	< 0,0001	
	4,07	6,08		
Episodic headache duration (in years)	11,88±	5±	< 0,0001	
	3,31	2,51		
Chronic headache debut, Age	28,42±	30,34±	=0,2184	
	6,54	7,28		
Chronic headache duration (in years)	4,14±	2,87±	=0,002	
	2,03	1,21		
Abusive headache duration (in years)	2,62±	2,43±	=0,5395	
	1,31	1,44		
Number of headaches in 1 month (in	21,5±	26,3125±	<0,0001	
days/months)	4,88	3.78	,	
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Time elapsed from the onset of primary	16,14±	7,8125±	<0,0001
headaches to the onset of AH	4,89	3,01	

Table 5

Pain intensity on the VASH scale, time lost due to headache on the HALT scale, and LDQ scale were significantly higher in patients with migraine-induced AH and tension-type headache-induced AH. Information on drug addiction

assessment:				
	Patients with migraine-induced	Patients with ABO due to		
	AH (n=50)	tension-type headache (n=32)		
VASH scale				
	8,6±1,47	7,625±1,13		
HALT-90 scale				
	23,35±14,82	18,45±4,8		
LDQ scale	13,0±7,6	17,06±5		

According to the VASH scale, severe headache was detected in both groups of patients. According to the HALT-90 scale, the level of severity 3 in AH caused by AH is determined and requires prophylactic treatment. In AH caused by migraine, it was found that patients with severity level 4 needed medical treatment. According to the LDQ scale, both groups were found to be moderately dependent on drugs.

Discussion

Based on the ICHD-3, AH can be diagnosed at the first clinic visit to instruct patients to reduce the amount of commonly used analgesics according to the headache criteria of abuse. Longitudinal studies conducted by headache specialists at centers of expertise around the world have shown that a significant proportion of headache patients have AH. Studies of pathophysiological mechanisms consistently reveal different processes involved in the abuse of analgesics in headache syndromes. However, the amount of data is still limited and requires further research [29,30]. AH occurs as a secondary headache in patients with a primary headache by abuse of analgesics, so if analgesics are not abused in headache attacks and chronic headache bothers, without detoxification only the primary headache can be treated. [31, 32]. The absence of specific pathognomic clinical aspects or clinical biomarkers in the diagnosis of AH requires careful formulation of its diagnostic criteria. Therefore, the emergence of new evidence in the future may require a revision of this criterion. [33].

Analyzing the studies on AH, in daily practice, the assessment of groups, combined forms, frequency, and amount of analgesics in patients with headache syndrome is the main component of medical evaluation in headache diseases. Adverse effects of analgesic abuse should be actively evaluated and treated accordingly. However, rapid identification of AH is not easy, and consideration and prediction of the types of primary headaches and the likelihood of each type causing AH

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can prevent a false-positive diagnosis of AH. Other secondary causes of headaches include overuse of medication that can cause headaches to worsen. Therefore, we emphasize that AH activity should be critically evaluated for each patient. For this, a careful approach to the clinical and neurological characteristics of AH and a clinical examination focused on neurological deficits are required.

Conclusion

- 1. AH is more likely to be caused by migraine.
- 2. AH is more common in women.
- 3. AH is observed more in working age.
- 4. AH is more common in people who are not engaged in mental work.
- 5. AH-derived combined painkillers play a key role.
- 6. AH Migraines are more likely to occur in patients with tension headaches.
- 6. In patients with AH, the quality of life worsens and the daily functioning of the patient increases.

Thus, the above data suggest that drug abuse in Migraine and Tension Headache causes AH.

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