

Correspondence: **Elena CIUCHILAN**
Bd. Traian 1 – 3, Piatra Neamț, 610136, România
Tel.: +040.233.213.055
E-mail: ciuchilane@yahoo.com

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POST-TRAUMATIC HEADACHES

Elena CIUCHILAN, Tatiana IOV, Liviu PENDEFUNDA

Elena CIUCHILAN: M. D., Drd., University of Medicine and Pharmacy “Gr. T. Popa” Iași, România, Senior forensic pathologist, the Forensic Service of Neamț, România

Tatiana IOV: M. D., Ph. D., Senior forensic pathologist, Institute of Forensic Medicine of Iași, România

Liviu PENDEFUNDA: M. D., Ph. D., Professor, University of Medicine and Pharmacy “Gr. T. Popa” Iași, Department of Neurology, Senior neurologist, 2nd Neurology Department, The Emergency Clinical Hospital “Prof. Dr. N. Oblu” Iași, România

Abstract:

This paper is dedicated to a current medico-social problem: post-traumatic headaches. There are described the clinical types, the causes and conditions for their development. There are considered the organic, psychological, and socio-cultural role as well as the role of the iatrogenic factors in the genesis of post-traumatic headaches. There are mentioned the risk factors which lead to chronic headaches, factors which must be taken into account when elaborating an effective rehabilitation program: the need for appreciating the significance of some symptoms with the identification of certain incapacities resulting from the cranio-cerebral trauma, the ascertainment of a causal link between the headache and the trauma suffered.

Keywords: post-traumatic headache, forensic implications

Rezumat:

Lucrarea este dedicată unei probleme actuale medico-sociale: cefalalgiile posttraumatice. Sunt descrise variantele clinice, cauzele și condițiile dezvoltării acestora. Sunt apreciate rolul organic, psihologic, socio-cultural, precum și cel al factorilor iatrogeni în geneza cefalalgiilor posttraumatice. Sunt menționați factorii de risc care duc la cronicizarea cefalalgiei, factori care trebuie luați în calcul în momentul întocmirii unui program de reabilitare efectiv: necesitatea aprecierii semnificației unor simptome, cu stabilirea unor incapacități ce decurg din trauma cranio-cerebrală, stabilirea unei legături cauzale între cefaleea apărută și traumatismul suferit.

Cuvinte-cheie: durere de cap post-traumatică, implicații medico-legale

INTRODUCTION

Post-traumatic headache, defined as headache or cephalgia occurred following cranial trauma, is one of the most controversial, conceptually and practically, types of headaches. It represents one of the most frequent symptoms of cranio-cerebral trauma of any nature and during all of its stages.

The great variety of the clinical contexts, in which the only and the dominant symptom is the cranio-cervical pain, makes it necessary for an orientation in a vast complex of possible mechanisms. Knowing the structures likely to become pain sources and the mechanisms involved in their production is absolutely necessary in order to establish a correct diagnosis and an appropriate treatment.

Statistically, most headaches are not dangerous (1). Nevertheless, the problematics of these types of disorders becomes important for the public health systems once with the multiplication of the causes determining them, reflected ultimately in higher examination and treatment costs which add to other costs which end up burdening the health system. Due to the fact that it is considered a minor disorder, there have been carried out important studies (2), (3), (4), (5), (6) and there have been elaborated numerous classifications of headaches (7).

Depending on the expansion, post-traumatic headache may be:

- generalized or diffused headache, with features of a tensional headache occurring at a certain time after the trauma correlated with triggering factors (emotional stress, fatigue) displaying a variable intensity, from the sensation of cephalic pressure or discomfort to strong pains, sometimes associated with nausea and vomits. Sometimes they can begin with hemicranias with subsequent generalization;
- localized headache, at the place of trauma and accompanied by the sensitivity of the corresponding cutaneous area. It may be continuous or intermittent, sometimes associated with different paraesthesia, probably through scalp nerve injuries;

Post-traumatic headaches present a high clinical variability:

- the vascular-type headache occurs rarely in a post-traumatic episode in the absence of migrenous antecedents. A cranio-cerebral trauma may increase the frequency and the intensity of some preexistent migrenous crises or, conversely it may improve a preexistent migraine;
- the muscle contraction headache occurs following the maintenance of the contraction condition of the nuchal muscle, of the temporal muscle or of the whole pericranial muscle, the pains being described as a constrictive stripe around the head;
- the traction headache occurs in the evolution of certain epidural, subdural, intracerebral haematoma;
- headache triggered by post-traumatic ocular, otic, dental hazards;
- psychogenic headache (8);
- intracranial hypotension headache appears to the elders who, after the trauma, claim cephalic heaviness or pressure, continuous and diffuse headaches (9);
- headache triggered by post-traumatic hydrocephalia;

In the International Headache Society's International Classification of Headache Disorders, 2nd Edition (ICHD-II), there are several subtypes of post-traumatic headache (10):

5.1 Acute post-traumatic headache:

- 5.1.1 Acute post-traumatic headache attributed to moderate or severe head injury;
- 5.1.2 Acute post-traumatic headache attributed to mild head injury;

5.2 Chronic post-traumatic headache:

- 5.2.1 Chronic post-traumatic headache attributed to moderate or severe head injury;
- 5.2.2 Chronic post-traumatic headache attributed to mild head injury;

5.3 Acute headache attributed to whiplash injury;

5.4 Chronic headache attributed to whiplash injury;

5.5 Headache attributed to traumatic intracranial haematoma:

- 5.5.1. Headache attributed to epidural haematoma;
- 5.5.2 Headache attributed to subdural haematoma;

5.6 Headache attributed to other head and/or neck trauma:

- 5.6.1 Acute headache attributed to other head and/or neck trauma;
- 5.6.2 Chronic headache attributed to other head and/or neck trauma;

5.7 Post-craniotomy headache:

5.7.1 Acute post-craniotomy headache;

5.7.2 Chronic post-craniotomy headache.

Post-traumatic headache represents a common term for headache and neck pain occurred following a cranio-cerebral trauma of any nature. In order to establish a diagnostic of post-traumatic headache it's necessary a differentiation of this one of any other headache which may occur determined by other causes shortly after the trauma. To this end it's necessary to establish a causal link between the cranio-cerebral trauma and the headache.

According to the criteria set by the International Headache Society it is considered as post-traumatic the headache which occurs during the first seven days following a cranio-cerebral trauma and which is associated or accompanied by the following elements: 1. clinical and paraclinical data attesting the character and the severity of the trauma; 2. post-traumatic loss of consciousness and 3. post-traumatic amnesia for more than 10 minutes. In the case of mild cranio-cerebral trauma the last three criteria may not be present.

The frequency, the incidence and the intensity of the headaches are reversely proportional to the intensity of the trauma (Arseni and Oprescu). The most frequent painful episodes come from those with minor trauma, often with no losses of consciousness. We may argue practically that the most intense and prolonged headaches occur following some minor and moderate trauma. Only to a small part of the traumatized individuals there can be established a correlation between the gravity of the trauma and the intensity of the headache. Post-traumatic headache is paradoxically a lot more severe and frequent after mild cranio-cerebral trauma – 89 – 92 of the cases. For the most cases of severe trauma, headaches do not occur at all or are insignificant. Immediately after the trauma it can be guised by the presence of other traumatic injuries with the outbreak of more powerful painful stimuli. Nevertheless, the persons with severe cranio-cerebral trauma may accuse headaches for months and even years afterwards.

Usually, headaches occur in a few hours or days following the accident. These ones will be diagnosed as acute headaches. If the headaches develop for two weeks and persist for several months after the accident there are considered chronic post-traumatic headaches (11). Acute headache may be the start of a chronic headache.

The possibility of predicting the evolution towards a chronic headache is very difficult. Generally, patients with preexistent headaches or migraines in family antecedents present a high risk. The severity of the trauma is also a helping element in the prognosis of the headache, but many patients suffer months and even years from severe headache after a mild cranial trauma.

The great variety of the traumatic mechanisms occurred often leads to situations in which the headache is the only or the dominant symptom presented by the traumatized person, situation associated frequently with minor objective traumatic injuries or even with their absence.

The headache may persist without being accompanied by neurological signs but it is often accompanied by a series of subjective claims which form together the post-traumatic headache syndrome: vertigo sometimes associated with nystagmus, balance disorders, nausea, attention deficit, photophobia, phonophobia, insomnia, depression, memory disorders, fatigue, demotivation, anxiety, irritability, self-confidence decrease. These ones frequently accompany headaches and they induce or aggravate the headache.

The insistent increase of variants and cases of cranio-cerebral trauma to children as well as of their consequences render these as a priority medical and social issue. Among these the most frequent are the mild cranio-cerebral trauma, but the negative effects of the trauma can be intensified together with the child's growth leading to the disorganisation of brain's integrative function, the progressive development of vegetative disorders, persistent headaches as well as to other disorders impeding the child's development and social adaptation.

In the genesis of the acute post-traumatic headache we can notice the influence of both the organic factors as well as of the psychogenic ones. The organic factors which may be considered are the vascular ones, traumatic injuries of the soft epicranial tissues, LCR circulation disorders. As

psychogenic factors may be considered the hospitalization, which may be traumatizing by itself, the investigations and medico-surgical interventions carried out, the waiting condition and the fear for complications, the development of the post-traumatic stress syndrome. To certain persons, the conditions and the aspects of the occurrence of the trauma by itself (murders, falls from heights, car accidents) can be psycho-traumatizing and may lead to depressive disorders. The creation of a stressing situation leads to the creation of behavioural stereotypes and to the delineation of an algic personality. The hypertonus of the pericranial muscle leads to a vascular spasm, hypoxia, edema of these muscles, and the activation of the peripheral painful receptors whose clinical manifestation is the headache. The character and the physiopathologic mechanism of the headache are determined by the individual's particularities, by emotional, cognitive and social factors (12).

The evolution of mild cranio-cerebral trauma and post-traumatic adaptation largely depend on psychosomatic disorders during acute stage. Not only the action on the limbic and reticular system, the most exposed to microvascular injuries in TCC plays an important role in the development of the psycho-vegetative syndrome and of the post-traumatic headache. Equally, it cannot be completely explained the production mechanism through diffuse axonal injuries which lead to imbalances of the cerebral functions, of the basal nucleuses and of the stem which participate to the occurrence of the painful syndrome. The correlation of the role of the organic and psychosocial factors in the pathogenesis of post-traumatic headache changes as time passes: the longer the time period following the trauma, the stronger the action of the psychological, social and iatrogenic factors is. Iatrogenesis is first of all an inappropriate treatment during the acute stage: stationary and prolonged treatment with no indications, strict regime of bed rest, exaggerated anthalgic therapy, discussions and exaggerated suppositions on possible severe complications or the absence of an appropriate treatment neglecting the claims presented by the patient, etc.

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Beyond dispute, in the evolution towards a chronic post-traumatic headache, an important role is also played by the personality of the traumatized person. The individual psychic particularities determine the person's reaction to pain, his/her behaviour and the capacity to bear the pain.

The crucial importance of precise definitions is imperatively necessary due to vague subjective claims of some subjects such as the presence of certain cognitive deficits following the trauma with short losses of consciousness or short periods of post-traumatic amnesia.

The physician is confronted with the need of evaluating the significance of certain symptoms and with the identification of certain incapacities triggered by the cranio-cerebral trauma:

1. Initial pain, suffering, work incapacity;
2. Estimation of gravity: period of hospitalization and of the indicated treatment;
3. The persistence of organic symptoms;
4. The persistence of psychogenic symptoms;
5. Incapacity related to:
 - professional work capacity;
 - capacity for carrying out household activities;
 - life quality;
 - wage losses.

CONCLUSIONS

The emotional vulnerability of cranium trauma and the frequent forensic and social implications worsen the symptoms and the mechanisms. The headache and the above-mentioned claims presented by the patient often lead to an erroneous interpretation by the family, colleagues, physicians. It is concluded as an EXAGGERATION of the claims for some reason. Nevertheless, most of the traumatized patients don't exaggerate. They only want to get better; to have their pains dimi-

nished and that their disturbed life could come back to normal. Many of them face difficulties in carrying out daily activities and that because of the headaches, insomnias, concentration difficulties. A vicious circle is thus created with a lot more stress due to the difficulties encountered home and at the workplace. UNFORTUNATELY, our legal and insurance procedures are not correctly applied in the case of these patients, being mainly considered and interpreted as a deliberate financially motivated SIMULATION.

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