The American Journal of Medical Sciences and Pharmaceutical Research (ISSN – 2689-1026)
VOLUME 05 ISSUE 05 Pages: 58-63
SJIF IMPACT FACTOR (2020: 5. 286) (2021: 5. 64) (2022: 6. 319) (2023: 7. 396)
OCLC – 1121105510
Publisher: The USA Journals

Journal Website: https://theamericanjournals.com/index.php/tajmspr

Research Article

NEUROVISUAL AND PSYCHOLOGICAL CHANGES IN TENSION HEADACHES (LITERATURE REVIEW)

Submission Date: May 20, 2023, Accepted Date: May 25, 2023,
Published Date: May 30, 2023 |
Crossref doi: https://doi.org/10.37547/TAJMSPR/Volume05Issue05-12

Dilbar Tadzhievna Khodzhieva
Doctor Of Medical Sciences, Professor Bukhara State Medical Institute, Uzbekistan

Khotamov Bekzodjon Farhodovich
Bukhara Innavasion Medical Institute, Uzbekistan

ABSTRACT

Globally, the incidence of neurological diseases has increased over the past 25 years due to an increase in the population and an increase in the duration of residence. Tension headaches are the most common neurological disorder and are estimated to suffer from 1.5 billion populations worldwide. According to data given by various authors, the prevalence of tension headaches is 20.6% to 78% indicative. The chronic form of headache is assessed as a long-term condition leading to patient dezadaptation compared to the episodic form. Chronic tension headaches are observed mainly in women, accounting for 0.5% to 4.8% of indications, and this requires qualified medical care.

KEYWORDS

Headache, migraine, cephalic syndrome, psychovegetative diseases.

INTRODUCTION

Globally, the incidence of neurological diseases has increased over the past 25 years due to an increase in the population and an increase in the duration of life. Tension headaches are the most common neurological disorder and are estimated to suffer from 1.5 billion populations worldwide. According to data given by various authors, the prevalence of tension headaches is 20.6% to 78% indicative. The chronic form of headache is assessed as a long-term condition leading to patient dezadaptation compared to the episodic form. Chronic tension headaches are observed mainly in women, accounting for 0.5% to 4.8% of indications, and this requires qualified medical care. According to the World Health Organization, three-quarters of the population between the ages of 18 and 65 have had at least one headache attack in the last year, while chronic

The American Journal of Medical Sciences and Pharmaceutical Research
(ISSN – 2689-1026)
VOLUME 05 ISSUE 05 Pages: 58-63
SJIF IMPACT FACTOR (2020: 5. 286) (2021: 5. 64) (2022: 6. 319) (2023: 7. 396)
OCLC – 1121105510
Publisher: The USA Journals

headaches are observed in 2-3% of the population. Episodic headaches are not considered a major medical or social problem, while chronic tension headaches are accompanied by comorbid disorders, such as depression, sleep disorders, somatoform disorders, in which the patient clearly distorts the functioning and quality of everyday life, the difficulty in choosing an effective treatment leads to chronic tension headaches and migraines to a level of complex socio-medical problem. The desired pain syndrome is known to be accompanied by Psychovegetative disorders. For this reason, a number of scientific studies are underway to establish effective methods of preventing and treating psychovegetic changes and postural disorders in primary forms of headaches on a global scale. Multidisciplinary research in different countries shows that changes in the immune system and vegetative system in tension headaches are manifested differently in dynamics, as well as with a specific symptomatocomplex. With this in mind, it is of particular importance to offer clinical-neurological, neuropsychological, Psychovegetative, postural disorders, comparative diagnosis of neurophysiological and neurovisual changes in patients, early diagnosis of patients, etiopathogenetically based treatment and preventive methods, improving the development of methods for assessing the effectiveness of treatment. In our country, targeted and practical measures are being implemented to reform the health system and equalize it to World requirements, including the development of effective methods of early diagnosis and complex treatment of the disease in patients with tension headaches, a comprehensive and correct approach is carried out. Headache in humans is the most common complaint, which primary headache is 53.2% (with migraine - 35.2%, episodic tension headache - 18%, cervicogenic headache (CCH) - 13%), so far pathogenetic aspects of cephalgias remain little-studied. Although it is the cephalgias in many that require careful study with the beginning of the examination and follow-up of patients. It is known that any pain syndromes are accompanied by the development of psycho-vegetative disorders. It is headache in elderly people that has been studied by various researchers, but in spite of that a lot of questions are still open for researchers and patients suffering from various cephalgias, psycho-vegetative disorders in the interictal period remain understudied. There is also some interest in differential diagnostics of psycho-vegetative disorders inherent directly to adolescents with changes caused by cephalgic syndrome. Therefore, comprehensive investigation of the state of adaptive structures with the study of emotional disorders and vegetative disturbances, as well as their dependence on the pain syndrome is an urgent problem, because timely prescription of adequate therapy will improve the quality of life of adolescent headache sufferers. We have not found any studies of the autonomic nervous system using evoked cutaneous sympathetic potentials in various headaches in adolescents during the interictal period in the modern literature. In her 2010 study, S.E. Lapina studied autonomic regulation in adult patients with tension headache using the method of evoked cutaneous sympathetic potentials. As a diagnostic method, evoked cutaneous sympathetic potentials were used to study autonomic dysfunction in patients with panic disorder by Tooter N.V. in 2008. The method of evoked cutaneous sympathetic potentials is very effective in studying the autonomic nervous system as it allows revealing its dysfunction both at the central and peripheral levels. To date, there have been many studies of the postural system in various somatic pathologies, both in adults and adolescents. However, the state of coordinator function in various headaches during the interictal period has been practically not studied. This can be explained by the underestimation

The American Journal of Medical Sciences and Pharmaceutical Research
(ISSN – 2689-1026)
VOLUME 05 ISSUE 05 Pages: 58-63
SJIF IMPACT FACTOR (2020: 5. 286) (2021: 5. 64) (2022: 6. 319) (2023: 7. 396)
OCLC – 1121105510
Publisher: The USA Journals

of the method of computerized stabilometry in the study of the pathogenesis of various somatic pathologies. The relationship of emotional and postural disorders in adults with the pathogenetic variants of tension headache has not yet been investigated. Additional neurophysiological criteria for two types of tension headache with pericranial muscle involvement and tension headache without pericranial muscle involvement have not been formed either. To date, it has been established that the most common somatic pathology in adults is headache. The increase in cephalgic syndrome among people is explained by the decrease in their quality of life. It is pointed out that the number of those suffering from headaches is much higher than in the statistics, which is explained by the impossibility to detect cephalgia in men in time. The authors explain this by men's inability to formulate their complaints. Among the factors provoking headaches, emotional overstrain, trauma, meteorological factors, disorder of nutrition and sleep regime were noted. Despite the fact that since the 19th century many Russian and foreign authors have studied various aspects of the cephalgic syndrome, the pathogenesis, etiology, and clinical differential diagnosis are still devoted to a few works. Headache is a symptom characterized by an unpleasant, painful sensation localized from the cervical-occipital region to the eyebrows .According to the adopted second, revised in 2003, and published in 2013 a new third version of the International Headache Classification, there are three main parts and 14 types of headaches. Primary headaches include migraine headache, tension headache, and trigeminal autonomic neuralgia. Secondary forms of headache include headaches, including cervicogenic headaches (CCH) associated with head and neck trauma, with cerebral and neck vascular lesions, as well as non-vascular intracranial lesions: taking various substances or their withdrawal, with infections, with homeostasis disruption. Headaches and facial pain associated with pathology of the skull, neck, eyes, ears, nasal cavities and sinuses, teeth, oral cavity, as well as headaches associated with mental illnesses are singled out separately. The group of painful cranial neuropathies includes cranial neuralgia and central facial pain, both of specified and unspecified etiology. Definition, classification, etiology, and pathogenesis of tension headache. Tension headache is manifested by prolonged bilateral pains of moderate intensity, often against the background of emotional stress, lasting from 30 minutes to 7 days and is often accompanied by pericranial muscle tension. Tension headache is characterized by monotonous, squeezing, constricting, dull pain. The pain in tension headache is localized in the frontal and temporal or cervical-occipital regions.

The initial stimulus is thought to be acute or chronic muscle overload, which is the source of increased pain afferentation. Prolonged pain irritation leads to a nonspecific inflammatory response. This in turn leads to vasodilation and release into the interstitium of chemical mediators of pain, such as serotonin, histamine, Substance P, bradykinin, and products of cyclooxygenic and lipooxygenic metabolism of arachidonic acid. Accumulation of mediators maintains reflex contraction of the muscle and blood flow in the spasmed muscle is impaired. All this leads to sensitization of nociceptors with high excitability threshold. Under these conditions, trigger points are formed. Sensitization of peripheral neurons affects the state of central nervous system neurons. There arises central sensitization and, eventually, a decrease in the excitability threshold. This results in pathological pain response - hyperalgesia. In the pathophysiology of tension headache, attention is also paid to the dysfunction of endogenous mechanisms of antinociceptive control, as well as changes in reactivity

The American Journal of Medical Sciences and Pharmaceutical Research
(ISSN – 2689-1026)
VOLUME 05 ISSUE 05 Pages: 58-63
SJIF IMPACT FACTOR (2020: 5. 286) (2021: 5. 64) (2022: 6. 319) (2023: 7. 396)
OCLC – 1121105510
Publisher: The USA Journals

of structures of the limbico-reticular complex, which is confirmed by detectable psychovegetative disorders. This leads to an intensification of pain and eventually to impairment of psychomotor correlation. The biochemical theory of tension headache pathogenesis is characterized by decreased serotonin levels, as well as decreased activity of the central opioid system. Also in the pathogenesis of episodic tension headache plays a role and low levels of magnesium. Its role is to regulate the functioning of neuromuscular tissue, is involved in myocyte relaxation, being a calcium antagonist. Thus, magnesium deficiency contributes to the tonic state of muscles, which eventually causes headaches. The pathogenesis of tension headache is also affected by the participation of magnesium ions in the synthesis of ATP in the mitochondria of cells. This mechanism consists in the accumulation of macroergic compounds. This is necessary to maintain the functional reserve of all systems of the body and develop their adaptive reactions. A decrease in energy potential occurs with magnesium deficiency. Ultimately, this leads to a decrease in resistance of the nervous system to stress, and as a consequence, to malfunction of the hypothalamic-pituitary system. Thus, pathogenesis of tension headache is caused by tension of pericranial muscles and a complex of neurochemical reactions.

Disturbance of hemodynamic processes in the vertebral arteries is explained by the presence of dysplastic processes in the cervical spine.In addition, impaired blood flow in the vertebral arteries can be caused by Kimmerly anomaly, in which the vertebral artery is compressed and its sympathetic structures in the altered sulcus for vertebral artery, uncovertebral arthrosis, Clippel-Fail syndrome. According to the current literature, the neuralgic mechanism has a major influence in the development of CGD. Studies show that developmental abnormalities of the cervical spine result in compression of the trigeminocervical complex . The three upper cervical segments and the trigeminal spinal tract are known to overlap. Therefore, the pain syndrome may be localized in different regions of the cervical fields. But its localization between the cervical and trigeminal areas is possible. It should be noted that the frontal localization of the pain syndrome is due to compression of the ophthalmic branch of the trigeminal nerve. It is not excluded that the pain also spreads along the maxillary and mandibular branches of the trigeminal nerve. Painful pericranial muscular areas have been identified in persons with bite disorder. At the initial stage of CGD, the pain syndrome may be bilaterally localized due to compression of the great occipital nerve.Many authors have proposed the theory of neurovascular conflict. This theory is that the ventral portion of the superior cervical segment of the vertebral artery compresses the C2 root. Compression of the venous plexus of the root and C2 ganglion should also be considered. As a result of irritation of the sensory nerve roots and sympathetic nerves, there is reflex tension of the muscles of the neck and occipital area, with the appearance of pain syndrome.

Cervicogenic headache can be a consequence of traumatic damage to the cervical spine, more often a "whiplash" injury. The occurrence of headache after "whiplash" injury of the cervical spine ranges from 37 to 82%. The mechanism for the development of CCH in this case is muscle spasm and neuralgia of the great occipital nerve. All types of tension headache are divided into two subtypes - with involvement of pericranial muscles and without involvement of pericranial muscles. The concept of episodic tension headache with pericranial muscle involvement is not at all questionable, because the development of episodic tension headache is associated with tension of the neck, face, and scalp muscles . Episodic tension headache without pericranial muscle involvement is

The American Journal of Medical Sciences and Pharmaceutical Research (ISSN – 2689-1026)
VOLUME 05 ISSUE 05 Pages: 58-63
SJIF IMPACT FACTOR (2020: 5. 286) (2021: 5. 64) (2022: 6. 319) (2023: 7. 396)
OCLC – 1121105510
Publisher: The USA Journals

accompanied by tenderness on palpation of pericranial tissues, and impaired nociceptive and antinociceptive relationships, which often causes emotional distress and discomfort in the pericranial muscles.

Conclusions: A lot of works are devoted to the study of the relationship of tension headache and mental disorders. At the same time, it is worth noting that episodic headache has a connection with mental disorders. In particular, chronic tension headache is a constituent symptom of mental disorders, such as depression. We cervicogenic headache as possibly a variant of tension headache with involvement of pericranial muscles, as it is difficult to distinguish them clinically. One of the causes of cephalgic syndrome in adults is cervical spine instability. In our opinion, then, there is a version of a secondary or mixed genesis of tension headache. The main causes of tension headache with involvement of pericranial muscles are pathological changes in the anatomical structures of the cervical spine. The pathological process must be localized in the spinal-motor segment C1-C2. With this localization, pain irradiates to cranial structures.

REFERENCES

1. Casula EP, Leodori G, Ibáñez J, Benussi A, Rawji V, Tremblay S, Latorre A, Rothwell JC, Rocchi L. The Effect of Coil Orientation on the Stimulation of the Pre–Supplementary Motor Area: A Combined TMS and EEG Study. // Brain Sciences. 2022; 12(10):1358.
2. Rajain M, Bhatia R, Tripathi M, et al. Low-Frequency Repetitive Transcranial Magnetic Stimulation for Chronic Tension-Type Headache: A Randomized Controlled Study. // Cureus, 2023, № 15(2): e34922. doi:10.7759/cureus.34922
3. Закирова Э.Н. Качество жизни больных мигренью и головными болями напряжения // Автореф.дис. ... к.м.н., Пермь, 2009 23 с.
4. Ilkhomovna, K. M., Eriyigitovich, I. S., & Kadyrovich, K. N. (2020). Morphological Features Of Microvascular Tissue Of The Brain At Hemorrhagic Stroke. The American Journal of Medical Sciences and Pharmaceutical Research, 2(10), 53-59.
5. M. I. Kamalova, N.K.Khaidarov, Sh.E.Islamov,Pathomorphological Features of hemorrhagic brain strokes, Journal of Biomedicine and Practice 2020, Special issue, pp. 101-105
6. . Kamalova M., Khaidarov N., Shomurodov K. Microscopic examination of brain tissue in hemorrhagic stroke in Uzbekistan //Матеріали конференцій МЦНД. – 2021.
7. Kamalova, M., Ismatova, S., Kayumova, S., Gulomova, S., & Akhmedova, J. (2021). Blood supply to the shoulder and forearm muscles in the human foetus. Збірник наукових праць ΛΌГОΣ.
8. Khaidarov Nodir Kadyrovich, Shomurodov Kahramon Erkinovich, &Kamalova Malika Ilhomovna. (2021). Microscopic Examination OfPostcapillary Cerebral Venues In Hemorrhagic Stroke. The American Journal of Medical Sciences and Pharmaceutical Research, 3(08), 69–73.
9. Khodjieva D. T., Khaydarova D. K., Khaydarov N. K. Complex evaluation of clinical and instrumental data for justification of optive treatment activites in patients with resistant forms of epilepsy. American Journal of Research. USA. № 11-12, 2018. С.186-193.
10. Khodjieva D. T., Khaydarova D. K. Clinical and neuroph clinical and neurophysiological ch ogical characteristics of teristics of post-insular

The American Journal of Medical Sciences and Pharmaceutical Research (ISSN – 2689-1026)
VOLUME 05 ISSUE 05 Pages: 58-63
SJIF IMPACT FACTOR (2020: 5. 286) (2021: 5. 64) (2022: 6. 319) (2023: 7. 396)
OCLC – 1121105510
Publisher: The USA Journals

cognitive disorders and issues of therapy optimization. Central Asian Journal of Pediatrics. Dec.2019. P 82-86

11. Sadriddin Sayfullaevich Pulatov. (2022). Efficacy of ipidacrine in the recovery period of ischaemic stroke. World Bulletin of Public Health, 7, 28-32.
12. Sadriddin Sayfullaevich Pulatov. A Randomised Pilot Study Of Cardiovascular Patients With Hemispheric Ischaemic Stroke Against A Background Of Early Verticalisation- Web Of Scientist: International Scientific Research ..., 2022
13. Sadriddin Sayfullaevich Pulatov. (2022). Verticalization of Patients with Severe Acquired Brain Injury: A Randomized Pilot Study. Eurasian Medical Research Periodical, 9, 46–48.
14. Ostchega Y., Dillon C.F., Hughes J.P. et al. Trends in hypertension prevalence, awareness, treatment, and control in older U.S. adults: data from the National Health and Nutrition Examination Survey 1988 to 2004. J Am Geriatr Soc. 2007; 55(7):
15. Holmegard H.N., Nordestgaard B.G., Jensen G.B. et al. Sex Hormones and ischemic stroke: A prospective cohort study and meta-analyses. J Clin Endocri-nol Metab. 2016; 101(1): 69-78. DOI: 10.1210/jc.2015-2687.