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Trigeminal neuralgia – own observations

Trigeminal neuralgia is a disease which rarely occurs before 45 years of age. It is manifested as paroxysms of excruciating pain that usually lasts for a few seconds or minutes, with long periods of remission between attacks. In the early stages of the disease the pain is relatively mild, but as the attacks progress over a period of months or year, they become more severe and tend to occur at more frequent intervals. Now, trigeminal neuralgia is an important medical and social problem. It often leads to weakness or impairment of the life activity of patients, and isolation from human environment because of the anxiety from pain attacks. It is a disease involving the nerves which supply the teeth, jaws, face, and associated structures. Any portion of the face may be involved by the pain, depending upon which branches of the fifth nerve are affected. The mandibular and maxillary divisions are more commonly involved than the ophthalmic, in some instances two divisions may be simultaneously affected. It is a well-established fact, but a completely unexplained one, that the right side of the face is affected in more patients than the left by the ratio of about 1.7 to 1. The neuralgic attack is usually triggered not by a noxious stimulus but by a light, non-noxious stimulus (e.g. puff of air, wisp of cotton, shaving, cleaning the face, chewing) to certain trigger sites in the perioral region. These "trigger zones" are common on the vermilion border of the lips, the alar of the nose, the cheeks, and around the eyes. Usually any given patient manifests only a single trigger zone. With time the patients learn to avoid touching the skin over the trigger area and frequently go unwashed or unshaven to forestall any possible triggering of an attack (4,5).

Many theories about trigeminal neuralgia have been discussed for years. The etiology of this disease is controversial. Now, the main factor is an angionervous intracranial conflict near an entrance of sensory radix of the trigeminal nerve to the pons. Degenerative changes in myelinated fiber in the ganglion have also been observed and have been suggested as a basis for the disorder. Because the pathogenesis of trigeminal neuralgia is not clear, the treatment is mainly symptomatic and comprises conservative and surgical methods. All patients with trigeminal neuralgia should be very carefully investigated before any kind of medical or surgical treatment, because about 2 to 5 % of patients with trigeminal neuralgia have neoplastic or abnormal vascular lesions in the brain (1,3). Trigeminal neuralgia may be also the first and only manifestation of petroclival meningiomas, neurinomas, cysts, epidermoids, tumors. It is also recognized that trigeminal neuralgia occurs with some frequency in multiple sclerosis. About 1–1.5% of patients with multiple sclerosis have trigeminal neuralgia (7).

There are the following methods of the conservative treatment of trigeminal neuralgia: a) pharmacotherapy (phenytoin, carbamazepine). These drugs are now widely used in the clinical control of the disorder; b) the injection of anaesthetic drugs (lignocaine, bupivacaine, and ultracaine) into peripheral nerve area (blockade of sensory branches of trigeminal nerve); c) alcoholization of some branches of trigeminal nerve; d) physiotherapy (e.g. laserotherapy, diadynamic). Surgical methods include neurotomy (sectioning of the nerve at the mental foramen, or at the supraorbital or infraorbital foramen), cryotherapy (using low temperature to freeze sensory ramus of trigeminal nerve) and less popular methods in Poland - microvascular decompression

(MVD), percutaneous radiofrequency rhizotomy (PRFR) and percutaneous retrogasserian glycerol trigeminal rhizolysis (GR) (2,6,8).

There is the following scheme of treatment patients with trigeminal neuralgia at the Department and Clinic of Dental and Maxillofacial Surgery in Lublin. On the first visit to the clinic, the patient is very carefully examined, and diagnostic lignocaine blockades are done. The next step is physiotherapy (laserotherapy) and pharmacotherapy (carbamazepine). About 15% of our patients feel better after applying these methods. If this treatment is not effective we propose cryoblockade, as non-burdening, repeated and non-invasive method. After cryoprocudure, normal perception on the skin face is recovered, owing to regeneration of the nerves. Cryoblockade is done in local anesthesia. Exposed sensory ramus of the trigeminal nerve (intraorally – mental, alveolar inferior, infraorbital nerves, extraorally – supraorbital nerve) is frozen using liquid nitrogen and temperature of -180°C . Freezing–defreezing cycle is repeated 2–3 times. This method of treatment is in accordance with procedures (9,10). On the basis of the material from the Clinic of Maxillofacial Surgery, we can notice that trigeminal neuralgia most often concerns women than men, and it appears after 50 years of age. During one year we observed about thirty cases of trigeminal neuralgia. Most patients with trigeminal neuralgia were treated with using cryoblockade. The patients accepted this method because it allowed them to increase the life quality and return to normal life. They also agreed to repeat this cryoprocudure. Our results confirm that using cryoblockade is an effective method of treatment in trigeminal neuralgia.

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SUMMARY

On the basis of literature, information about trigeminal neuralgia presented in this article. The authors also demonstrated their own experiences connected with the therapy of trigeminal neuralgia especially using cryoblockade.

Neuralgia nerwu trójdzielnego - obserwacje własne

W pracy na podstawie piśmiennictwa przedstawiono wiadomości na temat neuralgii nerwu trójdzielnego (nnt), przydatne w praktyce lekarskiej. Zaprezentowano doświadczenia własne związane z leczeniem nnt, szczególnie zastosowanie obwodowych krioblokad.