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Treatment of Patients Suffering from Glossalgia Accompanied by Xerostomia

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Resume. Глосалгія вважається поліетіологічним захворюванням, що супроводжується парестезіями і порушенням чутливості язика за сегментарним типом в поєднанні зі змінами слиновиділення, смаку та бульварними явищами. Хворих турбує відчуття печіння, поколювання, садніння, оніміння язика (язик начебто "посипаний перцем", "обпалений" і т.п.). У пацієнтів, що страждають парестезіями язика, досить часто спостерігається пригнічення функції слинних залоз, що пояснюється порушенням нервово-рефлекторних шляхів, які забезпечують регуляцію секреторного процесу і передачу нервових імпульсів з поверхні язика. Лікування хворих глосалгією, що поєднується з ксеростомією проводиться комплексно при активній співпраці стоматолога, невропатолога, ендокринолога і гастроентеролога. Але, незважаючи на різноманітність існуючих методів лікування цієї патології, вони всі мають недостатній ступінь ефективності. Тому пошук більш перспективних методів залишається актуальним. Метою даного дослідження стало підвищення ефективності лікування глосалгії шляхом впливу на секреторний апарат великих і малих слинних залоз. Проведено обстеження і лікування 17 хворих на глосалгію жінок у віці 37-62 років з вираженим ступенем ксеростомії. Апробований авторами спосіб лікування глосалгії на фоні ксеростомії полягає у бужуванні протоків привушних і піднижньощелепних слинних залоз, послідовному та почерговому введенні в залози розчину хлоргексидину та олії насіння шипшини 2 рази на тиждень на протязі місяця, здійснення електрофорезу ніваліну на великі слинні залози (10 сеансів через день), призначення препарату «Но-шпа» перші сім днів від початку лікування. Об'єктивно доведено, що найближчі результати по

завершенню лікування характеризувались збільшенням загальної секреції та ліквідацією больового симптому в язиці у більшості хворих. Тому, на нашу думку, стимуляція секреторної діяльності слинних залоз у хворих на глосалгію є необхідною складовою комплексного лікування цієї категорії пацієнтів.

Key words: glossalgia; xerostomia; treatment; glossalgia, accompanied with xerostomia.

The problem of diagnostics and treatment of different types of burning mouth syndrome still has not lost its relevance, first of all due to the constant increase of patients suffering from various neurological disorders on the side of mucous membrane of mouth. Poor data received during examination, frequent lack of any data or inconsistency between subjective sensations and objective data may contribute to inadequate attitude towards patients with chronic pain and paraesthesiae in the tongue, that is why they have to visit dentists (therapeutics, restorative clinicians, surgeons), neurologist again and again and then return to dentists without feeling relief [2].

According to the data taken from scientific publications, from 50% to 70% of population of different countries of the world suffer from these or those dental neurogenic states [8]. Also considering that the indicated diseases mostly touch women of employable age, the social aspect of this problem becomes rather obvious. According to the data found in literature, 20% – 25% of patients who visited dentists because of paresthesia of the mucous membrane of mouth in fact suffered from glossalgia. Extension of glossalgia among patients with chronic orofacial pain syndromes ranges from 14% to 26% [4]. Earlier in the descriptions of this pathological process such terms as “glossodynia”, “burning mouth syndrome”, and “orodynia” were used. Glossalgia is considered to be a pluricausal disease as it is found in patients having gastrointestinal diseases, peripheral vascular diseases, and along with pathology of autonomic nervous system. It is possible to assent to an opinion of a number of authors, who believe that the change of internal glands functions lead to endocrine disorders and cause certain changes in mouth cavity [1].

It is based on the fact that the guiding symptoms of glossalgia are the phenomena of dry mouth along with a sensation of pain. These phenomena may be explained by the disorder of nerve and reflex pathways that ensure regulation of the secretory process and neurotransmission from the tongue surface. An additional point is that in the scientific researches it was discovered that in case of glossodynia there is a disturbance of a hemomicrocirculation of the tongue. Determination of this factor as a principle one among other causes leading to the progression of glossodynia is a characteristic feature of a new approach to the diagnostics of hemodynamic disorders in the context of this disease. Therefore, the most efficient methods are modern Doppler methods, which allow registering the movement of blood and measuring hemodynamic parameters in small and peripherally located lingual arteries [3].

Depression of function of major and minor salivary glands of various degrees is observed in patients suffering from dry mouth symptoms: from insignificant hyposalivation to a total absence of secretion, which is accompanied by difficulty of speech, taste perversion, disorders of chewing food, and swallowing problems. In such a case, major complaints are burning sensation, pin sensation, dry sore throat, and numbness of the tongue (as if the tongue is "peppered", "burned", etc.). All of these symptoms are characteristic for glossalgia.

Due to lack of shared vision on the cause of appearance of such pathology the treatment of patients suffering from glossalgia is complex and includes active cooperation of dentist, neurologist, endocrinologist and gastroenterologist. In the course of treatment of glossalgia it is appropriate to apply psychotherapy, hypnotherapy, electrical sleep, acupuncture, laser reflex therapy, balneotherapy, various physiotherapeutic procedures [7]. Drug treatment includes prescription of anti-depressants, sedatives, neuroleptic and ataractic agents as well as vasoactive agents, hyper-salivants, and immunocorrectors. In some authors' opinion the particular role should be given to ultrasonotherapy, in other words to a treatment by a current oscillating at ultrasonic frequency [5].

Besides, different kinds of keratoplastic agents (e. g. wild rose oil) and drugs

intensifying saliva flow (in case of hyper dry mouth) may be used in glossalgia treatment.

Pilocarpine (5 mg once a day, subglossally), vitamin A, and potassium iodide are used to reduce the phenomena of xerostomia in order to stimulate functions of salivary glands. Bromhexine may be used to reduce the viscosity of saliva. Yu. M. Maksimovskiy (1981) founded out that ingestion of Farfara leaves infusion and thennopsis stimulates saliva secretion and reduces its viscosity to 28.4%. General state in case of xerostomia can be also improved by frequent drinking, mouth rinsing by liquids that substitute the saliva, for example, salenum – a water-soluble flax-seed extract. Along with drug treatment (in the absence of counterindication) manual therapy and physiotherapy are used: half-body massage, endonasal electrophoresis with novocaine and bromide, ganglerone electrophoresis on the cervical sympathetic ganglion area and heparin electrophoresis on the tongue area. Laser therapy gives a health-promoting effect as it plays the role of a biological stimulant and has an analgesic effect. Hirudotherapy is also successfully used for treatment of glossalgia. Hirudotherapy is an application of medicinal leeches whose salivary secretions contain hirudin that has, among other, analgetic properties. Hyperbaric oxygenation therapy and injection of oxygen into the side surfaces of the tongue with the help of syringe are also recommended.

Research Objective. To increase the efficiency of treatment of glossalgia by affecting secretory apparatus of major and minor salivary glands.

In the course of analysis of existing sources of literature it appeared that despite the variety of suggested methods and ways of treatment of glossalgia accompanied by xerostomia, the search of more efficient and perspective methods remains up to date. The basis of the research rests upon the task to develop a way of treatment of glossalgia affected by xerostomia by means of searching the agent having an expressed reparative effect on glandular epithelium, high antioxidant properties, which will give the possibility to considerably increase the level of the treatment efficiency of such patients.

Research Materials and Methods. We have observed 17 female patients aged 37-62 years having severe xerostomia with phenomena of glossalgia. To define the volume of secretion the following has been performed: general sialometry (according to standard practice), examination of cellular composition of parotid glands secretion in the dynamics of observation. Digital scale, namely Visual analogue scale system, was used to assess the degree of sensation of pain in the tongue.

Therapeutic complex of xerostomia included bougienage of ducts of parotid glands and submandibular salivary glands, successive alternating administration of chlorhexidine solution and rose seed oil into glands twice a week during one month [6], electrophoresis of nivalin for major salivary glands (10 sessions every other day), prescription of "No-Spa" in the first 7 days from the commencement of treatment.

Research results. Leading symptoms of glossalgia affected by xerostomia included complaints about dry mouth, fissures in the area of angulus oris, burning, lancinating and sometimes throbbing pain in the area of side surfaces and on the tip of tongue. During examination dry lips with small fissures were noted, some patients had angular chilitis. Buccal mucosa and mucous membrane of tongue were poorly damped, smooth and shiny. At the primary analysis of the general secretion it was found that in average 0.7 ± 0.2 ml of oral fluid effused per 10 minutes. Cellular composition of parotid glands secretion was characterized by the presence of a considerable number of cells of squamous columnar epithelium, scarce number of goblet cells and elements of inflammatory kind. Pain reaction ranged from 6 to 10 points and was $8.2 \pm 0,3$ points average.

Analysis of the general secretion performed after the termination of treatment (immediate results) showed its increase to 1.4 ± 0.3 ml per 10 minutes. The absence of cells of inflammatory kind and goblet cells was noted at the cytological examination of parotid glands secretion. Scarce number of cells of columnar and pavement epithelium were found. The sensation of pain in the tongue disappeared in 12 patients, in 5 patients it ranged about 3.2 ± 0.8 points. As can be seen from the above, the method of treatment of glossalgia accompanied by xerostomia approved by the

author provides the increase of treatment efficiency, namely reduction or disappearance of a dry mouth, normalization of cellular composition of salivary glands secretion, elimination of the paresthesia of the tongue.

Conclusion. In the case of chronic xerostomia tongue receptors become sensitive to numerous irritative agents. This manifests itself by pain in the tongue. That is why the dry mouth contributes to the formation of glossalgia or modifies its clinical aspects, that explains the need of stimulation of secretory activity of salivary glands in patients, suffering from glossalgia.

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