

# ПРОБЛЕМИ СТОМАТОЛОГІЇ

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## MINIMALLY INVASIVE METHODOLOGY FOR SURGICAL TREATMENT OF ODONTOGENIC SINUSITIS

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Сьогодні одонтогенний синусит (ОС) зустрічається у майже 40% випадків серед усіх верхньощелепних синуситів. При цьому спостерігається зростання захворюваності на ОС. Цьому сприяють такі фактори, як пізнє медикаментозне лікування, поліпшення можливостей діагностики, збільшення кількості стоматологічних та особливо імплантаційних втручань з підняттям слизової підлоги верхньощелепної пазухи. Метою роботи було розробити оптимальний, щадний хірургічний варіант, який повинен призвести до тривалого одужання пацієнтів з одонтогенним гайморитом. Протягом 5 років під спостереженням та лікуванням перебували 58 пацієнтів з гіпертонічною хворобою віком від 20 до 65 років. У 42 з них причиною розвитку одонтогенного гаймориту стало ускладнення операції видалення зуба, що призвело до перфорації нижньої стінки пазухи. У жодному випадку з 42 пацієнтів з одонтогенним гайморитом (ОГ), що перебували під спостереженням, не потребувало виконання радикальної операції на верхньощелепні пазусі. У всіх пацієнтів вдалося досягти стійкого одужання при мінімальному обсязі хірургічного втручання, як на кісткових структурах, так і на слизовій оболонці верхньощелепної пазухи (ВЩП), порожнини носа і ротової порожнини. Автори статті вважають, що при ОГ немає показань для радикальної операції на ВЩП, і хірургічне втручання повинно бути органозберігаючим. Винятком можуть бути тільки випадки ОГ ускладненого запальним остеомиєлітом, орбітальними і внутрішньочерепними ускладненнями. Пацієнти з ОГ повинні лікуватися в щелепно-лицевих відділеннях з обов'язковою консультацією оториноларинголога, який краще за щелепно-лицевого хірурга знає особливості патологічного процесу в ВЩП. Крім того, при ОГ потрібно використовувати і комплекс консервативних заходів, які допоможуть забезпечити повноцінне лікування запаленої пазухи. Маючи можливість обрати оптимальний щадний варіант втручання, можна домогтися оптимального і стійкого одужання пацієнта про ОГ.

**Ключові слова:** лікування, одонтогенний гайморит, малоінвазивні методики хірургічного лікування.

Today, odontogenic sinusitis (OS) occurs in up to 40% of cases among all maxillary sinusitis. At the same time there is an increase in the incidence of OS. This is facilitated by factors such as late medical treatment, improved diagnostic capabilities, an increase in number of dental and especially implantation interventions with the lifting of mucous floor of maxillary sinus. The aim of work was to develop an optimal, sparing surgical option that should lead to a lasting recovery of patients with odontogenic sinusitis. For 5 years, under supervision and treatment, there were 58 patients with hypertension from the age of 20 to 65 years. In 42 of them, the cause of development of exhaust gas was a complication of the tooth extraction operation, which led to perforation of the lower wall of the sinus. In one case out of 42 observed patients with odontogenic sinusitis (OS), the patient did not need to undergo radical surgery on the maxillary sinus lesions. All patients managed to achieve a sustained recovery with minimal surgical intervention, both in bone structures, and in the mucous membrane of the maxillary sinus (MS), nasal cavity and oral cavity. The authors of the article believe that at in case of OS, there is no evidence for radical surgery on MS, and surgical intervention should be organ-preserving. An exception can be made only for cases of OS that is complicated by inflammatory osteomyelitis, orbital and intracranial complications. Patients with OS should be treated in maxillo-facial departments with obligatory consultation of the otorhinolaryngologist, who knows the features of pathological process in MS better than the maxillofacial surgeon. In addition, in OS one should use a set of conservative measures that will help to ensure the compete treatment of the inflamed sinus. Having the opportunity to choose the optimal sparing variant of intervention, one can achieve optimal and steady recovery of patients with OS.

**Key words:** treatment, odontogenic sinusitis, minor invasive methods of surgical treatment

### Introduction

Today, odontogenic sinusitis (OS) occurs in up to

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proved diagnostic capabilities, an increase in number of dental and especially implantation interventions with the lifting of mucous floor of maxillary sinus.

The urgency of the study of OS does not cause doubt and is dictated by fact that it occurs quite often and thus contributes to the development of severe complications, such as osteomyelitis of the upper jaw, phlegmon, meningoencephalitis, brain abscess, thrombophlebitis of the facial veins and sinuses of the solid cerebellum, sepsis. In addition, the disease affects mainly people of the working-age (30-50 years) which are more than 70%, making the medical problem even more economically relevant.

The traditional tactic of OS treatment in the maxillofacial surgery clinics is the implementation of radical surgery on the maxillary sinus with the complete removal of its mucous membrane. The surgery ends with the formation of the maximal size of the occlusion with the nasal cavity in the lower nasal passage. At the same time, the imposition of fistula sinus with the lower nasal passage leads to the removal of a large area of the mucous membrane, covered with an actively functioning ciliated epithelium.

The aim of our research was to develop an optimal, sparing surgical option that should lead to a lasting recovery of patients with odontogenic sinusitis.

#### Materials and methods

We examined and treated 58 patients aged from 20 to 65 for 5 years. In 42 of them, the cause of development of exhaust gas was a complication of the tooth extraction operation, which led to perforation of the lower wall of the sinus. All patients were comprehensively examined to confirm the correctness of the diagnosis. If a foreign body (filling material, tooth fragments), a cyst or cholesteatoma was determined in the maxillary sinus, as well as a long-existing oroantral fistula was performed, surgical treatment was performed. After local anesthesia, puncture of the affected maxillary sinus in the canine fossa was performed with a special trocar. The pathological contents of the sinus were removed with the help of an electric pump, its lumen was examined, and if found, foreign bodies, polyps or cysts were removed under control of the endoscope. The operation was completed by plastic closure of the odontogenic oroantral fistula. The choice of methods of local plastics was determined by the size of the fistulous course. For small oroantral fistulas, the edges of the fistulous opening were refreshed and two parallel cuts were made, going from the side of the vestibule of the mouth to the hard palate. In order to weaken the degree of tension of the mucosal flaps, a laxative incision can be made on the palatal side. After that lavsar seams were imposed. With a large oroantral fistula, a circular refreshment of its edges was made, a mucoperiosteal flap was cut out from the side of the vestibule of the oral cavity along the transitional fold. On the palatine side, near the fistula, the mucous membrane exfoliated. The edge of the flap was captured by a ligature, covering the fistulous opening, pulled in under the exfoliated mucous membrane in the sky and sutured. On the edges of the flap overlapped polyester seams. In order to close significant fistulas and in the presence of cicatricial changes in the area of perforation, plastics was made with a flap from the hard palate according to the method of A. Limberg. On a hard palate, a tongue-like flap was cutting out from the canine to the third molar from the corresponding side. Such a flap has advantages in that it

is vascularized due to the large palatine artery. The flap of the anterior end was moved to the alveolar process and, after refreshing the tissues around the perforation hole, was hemmed to the wound surface of the mucous membrane of the vestibule of the oral cavity and the alveolar process.

#### Results

In none of the cases in the patients observed by us, it was necessary to perform a radical operation on the maxillary sinus. All patients managed to achieve a stable recovery with a minimum amount of surgical intervention both on the bone structures and on the mucous membrane of the maxillary sinus, the nasal cavity and the oral cavity. We believe that in case of odontogenic sinusitis there is no indication for a radical operation on the maxillary sinus, and surgery should be organ-preserving. An exception can be made only for cases of odontogenic sinusitis complicated by the inflammatory osteomyelitic process, orbital and intracranial complications. Patients with exhaust gases should be treated in the maxillofacial departments with a mandatory consultation of the otorhinolaryngologist, who knows the features of the pathological process in the maxillary sinus better than the maxillofacial surgeon. In addition, in case of odontogenic sinusitis, it is also necessary to use a set of conservative measures that will help to ensure the full treatment of the inflamed maxillary sinus.

Our practice shows that having the opportunity to choose the optimal gentle intervention option, it is possible to achieve an optimal and stable recovery of the patient about odontogenic sinusitis.

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