AJPMHS
GLOBAL RESEARCH NETWORK

AMERICAN Journal of Pediatric Medicine and Health Sciences
Volume 01, Issue 09, 2023 ISSN (E): 2993-2149

Analysis of Various Treatment Methods for Oro-Antral Communication (Review Article)

Sattorova D. S.
Assistant of the Department of General Education and Fundamental Sciences, Bukhara Institute of Innovative Medicine

Tursunbaeva M. T.
Student of Stomatological Faculty, Bukhara Institute of Innovative Medicine. Uzbekistan

Abstract: This review article presents the materials of domestic and foreign studies on the problem of eliminating the oro-antral communication, and also analyzes the essential views of the concepts and methods of plastic surgery aimed at restoring the tightness of the oral region. Also in this article, the advantages and disadvantages of the illuminated methods are considered in comparison with each other, as well as the long-term results and consequences of various plastic methods are evaluated.

Keywords: oro-anral communication, plastic surgery, plastic surgery methods, shortcomings of the illuminated techniques.

To date, despite various practical experiences in the treatment of oroantral defect (communication), it still remains an understudied problem in medical practice. Chronic odontogenic maxillary sinusitis is inflammation of the maxillary mucosa caused by odontogenic infection and is one of the most common diseases. According to a number of authors, about 15% of the Russian population suffers from chronic forms of rhinosinusitis [10, 26], and according to foreign sources, about 14-20% of the world's population has this disease [23]. Chronic odontogenic maxillary sinusitis accounts for 27-39% of all inflammatory diseases [11, 24].

Studies have shown that the number of patients with chronic odontogenic maxillary sinusitis is constantly increasing and is from 4 to 7.5% of all inflammatory diseases of the region [13, 18]. Incidence has increased 3-fold in the last decade, according to various reports, from 2% to 50% of all patients with chronic odontogenic maxillary sinusitis [21, 25]. People of working age often suffer from chronic odontogenic maxillary sinusitis (71% of patients aged 30-50). It is related to age-related caries and its complications.

People of working age often suffer from chronic odontogenic maxillary sinusitis (71% of patients aged 30-50). It is related to age-related caries and its complications. According to a number of authors, a common cause of chronic odontogenic sinusitis of the upper jaw is the focus of chronic infection in the area of the large molars of the upper jaw and the main factor that provokes their exacerbation is their extraction [3,9, 15]. In European countries and North America, the incidence of chronic odontogenic maxillary sinusitis is approximately 10–12% of all maxillary sinusitis [24]. In recent years, the percentage of perforated forms of cardiovascular diseases has increased to 42-77% [22]. A.M. According to Sipkin et al. (2013), 54% of patients with cardiovascular diseases have a dolichocephalic type of skull structure, characterized by

strong pneumatization of the paranasal sinuses and especially the maxillary sinus, as well as a narrow alveolar process of the upper jaw [30]. According to Russian authors, a high frequency (39%) of "perforative" inflammatory processes of the maxillary sinuses was observed in older people [6, 12]. The presence of a chronic inflammatory process in the maxillary sinus causes many negative factors, first of all, deterioration of the patient's quality of life due to long-term, repeated episodes of nasal breathing disorders, headaches, etc. But in cases of exacerbation of acute sinusitis and chronic sinusitis, severe complications such as sepsis and meningeal manifestations (meningitis, sinus thrombosis) can develop and often lead to death [8, 11, 13]. Chronic odontogenic maxillary sinusitis is complicated by the formation of an oro-antral defect (communication), and causes various difficulties in diagnosis and treatment for otolaryngologists and dentists.

The presence of an oro-antral defect (communication) disrupts the architecture of the nasal cavity and maxillary sinus, thereby worsening the functional component, and in addition, it causes permanent damage to the paranasal sinus by the bacterial flora of the oral cavity [1, 12, 28]. Surgeons often face difficulties in closing the oro-antral defect (communication) [2]. In this regard, it is necessary to develop new methods of complex therapy for odontogenic maxillary sinusitis complicated by the presence of an oro-antral defect (communication), which can reduce the number of recurrences of the disease. The results of surgical intervention in the treatment of oro-antral defect (connection) largely depend on the selected surgical technique and are not always satisfactory [27, 30].

In this pathology, the traditional method of surgical intervention is the mobilized buccal flap technique, in which a trapezoidal flap (mucosa-bony) is formed, the top of which faces the oroantral defect (communication), then the epithelized fistula is cut, the flap is mobilized with incisions in the periosteum, and then the flap is divided and sewn onto the defect [7, 12, 14]. The obvious advantages of this method are the simplicity and speed of the execution method, the disadvantages are the exact mobilization of the soft tissue flap and the difficult postoperative period, taking into account the inevitable damage to the periosteum, that is, the recovery is prolonged for a long time. The development of collateral swelling in the area of soft tissues of the face is a common postoperative period with this surgical method, in addition, the described method is a "one-layer" method of closing the oro-antral defect (connection), but as a result of this method, there is a high risk of recurrence of the oro-antral defect (connection). . Also, in the late postoperative period, various degrees of deformations of the vestibule of the oral cavity and, in general, deterioration of the "quality" of soft tissues after surgical intervention, which, in turn, significantly complicates the placement of prosthetics and implants. Some patients report paresthesia and anesthesia in the area of the mobilized flap. It is difficult to recognize the above-described technique as an optimal method of oro-antral defect (connection) repair, taking into account all the above-mentioned shortcomings [4, 5, 28, 31].

Patching a full-layer palatal flap on a vascular peduncle is one of the classical methods of restoring the hermeticity of the oral cavity in an oroantral defect (communication) [1, 13]. The concept of the surgical technique is to create a "tongue-like" flap from the mucous membrane of the palate by making a bony incision along the entire depth of the layers, and then by cutting the soft tissues up to the palatal tumor. Thus, a "mucosal-connective tissue-periosteal" flap is formed, the top of which faces the incisors of the upper jaw, and the base faces the foramen and soft palate. At the next stage, the fistula is cut, a patch is placed on the defect and sutured [15]. An important advantage of this technique is the absence of scarring deformations of the oral vestibule, in addition, the increase in the volume of soft tissues within the framework of this surgical technique, the improvement of the gum biotype in the surgical field, which in turn facilitates the subsequent "interaction" with the field of surgical intervention.

The absence of postoperative symptoms (such as edema, hematomas) is compensated by other negative aspects - the skeletal area of the palatal tumor is renewed for a long time and, accordingly, causes pain and other discomfort to patients, in addition, the separation of the native

periosteum in the postoperative wound and its displacement to the donor area resulting in irreversible loss of the substrate for morphologically correct tissue regeneration, i.e. irreplaceable loss of the substrate for the regeneration of gingiva with sufficient anatomically, histologically correct, all necessary layers, which, in turn, makes this tissue area oral for future soft tissue augmentation deprives the cavity of the opportunity to become a "reserve" of the donor field [25].

Closure of the oro-antral defect (connection) can also be performed using the technique of mobilization to the fatty body of the cheek (Bish lobe) [17,22]. In fact, this is a modified method of the mobilized cheek flap, but unlike it, the mandatory element is to separate the fat body of the Bish node and then distribute it to the area of the oroantral defect (communication) and suture the wound [16, 17, 24]. This method can be performed in a "2-layer view" - the mucoperiosteal flap is attached to the sutured fatty body of the cheek, but in this case, the method reflects all the negative aspects of the classic trapezoidal flap [31].

There is another option for planning an operative intervention, if the mucoperiosteal flap is placed naturally - in this case, scarring deformations of the vestibule and other traditional "side effects" are not observed, but at the same time, it should be remembered that the Bish node is an anatomical derivative that forms the oval of the face in appearance. These nodes are located in pairs - on the left and right sides of the midline, as a result of a change in the position of one of them, it can cause a violation of the symmetry of the patient's face, which in turn is an absolutely unacceptable result [5,13,19, 14]. Thus, closure of the oro-antral defect (communication) is a very common, at the same time, highly individualized problem, therefore, the classic surgical methods of closing the oro-antral defect (communication) require revision and continuous modernization. Surgeons offer methods that increase the layering of the wound.

Surgeons offer methods that increase the layering of the wound. In the method of closing an oro-antral defect (communication) using an autotransplant to the auricle, it involves the method of harvesting a transplant from the auricle to the size of the defect, as a result of which the transplant is used as the "1st supporting layer" - "foundation", and in the 2nd layer A mobilized mucoperiosteal flap is created and sutured. With all the positive aspects of using this technique, of course, it cannot be excluded that this concept significantly increases traumatization and, of course, such a transplantation technique excludes the possibility of surgical intervention in an outpatient setting.

Various surgical techniques have been described that produce a solid "framework" (matrix) for tissue regeneration. In the role of "strength construction", the main place is occupied by the titanium mesh, on which the covering flaps are mobilized and sutured. Taking into account all the positive aspects of these methods, in the future, implant-based prostheses will be much more difficult to place, as it requires preliminary removal of synthetic elements, and also places high demands on the manual skills of the operator [30].

Summarizing the above, it should be noted that the issue of complex treatment of odontogenic maxillary sinusitis complicated by the presence of oro-antral defect (communication), perforative sinusitis, oroantral fistulas has not been fully studied and a suitable methodology has not been developed, because local and the data of foreign literature are conflicting and different and show that the results cannot be fully predicted, therefore, the choice of the optimal method of closing the oro-antral defect (communication) remains the most urgent topic that requires study [31].

REFERENCES

1. Angotoyeva I.B., Davydov D.V. Sostoyaniye ostiomeatal'nogo kompleksa u patsiyentov s odontogennym gaymoritom. FoliaOtorhinolaryngologiaeetPathologiaeRespiratoriae. 2015;2:21:14-15.
2. Anyutin R.G., Romanov I.A. Shchadyashchayagaymorotomiya u bol'nykh s perforativnymodontogennym gaymoritom. Rossiyskaya rinologiya. 1998; 2:34. 3. Bykanova

T.G. Konservativnoye i khirurgicheskoye lecheniye odontogennykh verkhnechelyustnykh sinusitov: Dis. ... kand. med.nauk. SPb. 2003.

3. Baydik O.D., Sysolyatin P.G. Kletochnyye i tkanevyye izmeneniya slizistoy obolochki verkhnechelyustnoy pazukhi pri odontogennykh sinusitakh. Rossiyskaya rinologiya. 2013;2:78.
4. Vigand M.E., IroXT i dr. Endoskopicheskaya khirurgiya okolonosovykh pazukh i perednego otdela osnovaniya cherepa. M.: Meditsinskaya literatura; 2010. 6. Iordanishvili A.K. (red). Osnovy klinicheskoy stomatologii. M.: Med. Kniga; 2010.
5. Vishnyakov V.V., Makarova N.V. Otsenka rezul'tatov khirurgicheskogo lecheniya patsiyentov s odontogennym verkhnechelyustnym sinusitom. Rossiyskaya rinologiya. 2013;3:20-22.
6. Kulakov A.A. Khirurgicheskaya stomatologiya i chelyustno-litsevaya khirurgiya. Natsional'noye rukovodstvo. Pod red. Kulakova, A.A., Robustovoy T.G., Nerobeyeva A.I. M.: GEOTAR-Media; 2010.
7. Davydov D.V., Gvozdovich V.A., Stebunov V.E., Manakina A.YU. Odontogennyy verkhnechelyustnoy sinusit: osobennosti diagnostiki i lecheniya. Vestnik otorinolaringologii. 2014;1:4-7.
8. Klenkina Ye.I. Differentsial'no-diagnosticheskiye aspekty latentnykh odontogennykh i khronicheskikh rinogennykh verkhnechelyustnykh sinusitov: Dis. ... kand. med.nauk. SPb. 2011.
9. Koshel' I.V. Novyye metody zakrytiya oroantral'nogo soust'ya. Nauchnyy al'manakh. 2016;2-3(16):89-94
10. Krasnozhen V.N., Shcherbakov D.A., Khayretdinova A.F. Primeneniye allotransplantatov pri odontogennykh verkhnechelyustnykh sinusitakh. Prakticheskaya meditsina. 2015;2:23-26.
11. Larin R.A., Shakhov A.V. Opyt endoskopicheskoy rinosinusokhirurgii v Nizhegorodskoy oblasti. Rossiyskaya rinologiya. 2013;2:50-51.
12. Lopatin A.C., Sysolyatin S.P. Rinologicheskiye aspekty dental'noy implantatsii. Stomatologiya. 2009;1:47-50.
13. Magomedov M.M., Khelminskaya N.M., Goncharova A.V., Starostina A.Ye. Sovremennaya taktika lecheniya bol'nykh odontogennym verkhnechelyustnym sinusitom s oroantral'nym svishchom. Vestnik otorinolaringologii. 2015;2:75-80.
14. Nasyrov V.A., Izayeva T.A., Islamov I.M., Ismailova A.A., Bednyakova N.N. Sinusity. Klinika, diagnostika i lecheniye. Bishkek. 2011.
15. Sipkin A.M., Nikitin A.A., Lapshin V.P. i dr. Verkhnechelyustnoy sinusit: sovremennyy vzglyad na diagnostiku, lecheniye i reabilitatsiyu. Al'manakh klinicheskoy meditsiny. 2013;28:82-87.
16. Yaremenko A.I., Matina V.N., Suslov D.N., Lysenko A.V. Khronicheskiy odontogennyy verkhnechelyustnoy sinusit: sovremennoye sostoyaniye problemy (obzor literatury). Mezhdunarodnyy zhurnal prikladnykh i fundamental'nykh issledovaniy. 2015;10-5:834-837.
17. Trubin V.V., Alekseyev S.B., Alekseyev YU.S. Maloinvazivnyy metod khirurgicheskogo lecheniya odontogennogo sinusita. Morfologicheskiye nauki i klinicheskaya meditsina. Materialy Vseros. nauch.-prakt. konf. s mezhdunar. uchastiyem, posvyashch. 100-letiyu so dnya rozhdeniya dotsenta Brilliantovoy Anny Nikolayevny. Cheboksary. 2015;237-240.

18. Kharitonov YU.M., Frolov I.S. Evolyutsiya metodov diagnostiki odontogennogoperforativnogo verkhnechelyustnogo sinusita. Rossiyskiy stomatologicheskiy zhurnal. 2013;4:53-56.

19. Chestnikova S.E. Konservativnoye i khirurgicheskoye lecheniye khronicheskikh odontogennykhperforativnykh verkhnechelyustnykh sinusitov: Dis. ... kand. med.nauk. M. 2008.

20. Shulakov V.V., Luzina V.V, Tsarev V.N., Biryulev A.A., Zuyeva A.A. Odontogennyye perforatsii verkhnechelyustnykh pazukh: prichiny razvitiya oslozhneniy i printsipy ikh preduprezhdeniya. Klinicheskaya stomatologiya. 2011;1:22-27.

21. Shulakov V.V., Luzina V.V., Biryulev A.A. i dr. Sovremennyye napravleniya profilaktiki oslozhneniy khronicheskogo odontogennogo verkhnechelyustnogo sinusita pri perforatsiyakh dna verkhnechelyustnykh pazukh. Klinicheskaya stomatologiya. 2015;2:24-32.

22. Shcherbakov D.A., Karimova A.I. Sposoby vosstanovleniya stenok okolonosovykh pazukh. Meditsinskiy vestnik Bashkortostana. 2014;6:2:57- 68.

23. Tsarapkin G.YU., Turovskiy A.B., Zavgorodniy A.E. Sistemnaya antibakterial'naya terapiya pri odontogennom verkhnechelyustnom sinusite na sovremennom etape. RMZH. 2007;18:1352-1356.26. Ahmed WM. Closure of oroantral fistula using titanium plate with transalveolar wiring. J Maxillofac Oral Surg. 2015;14(1):121-125. Epub 2013 Sep 26.

24. Agrawal A, Singhal R, Kumar P, Singh V, Bhagol A. Treatment of Oroantral Fistula in Pediatric Patient using Buccal Fat Pad. Int J ClinPediatr Dent. 2015;8(2):138-140. Epub 2015 Aug 11

25. Batra J, Attresh G, Garg B, Porwal S. Double-Layered Closure of Chronic Oroantral Fistulas Using a Palatal Rotational Flap and Suturing of the Sinus Membrane Perforation: Is It a Successful Technique? J Oral Maxillofac Surg. 2015;73(9):1668-1669. Epub 2015 May 30.

26. Borgonovo AE, Berardinelli FV, Favale M, Maiorana C. Open surgical options in oroantral fistula treatment. Open Dentistry Journal. 2012;6:94-98.

27. Ram H, Makadia H, Mehta G, Mohammad S, Singh RK, Singh N, Singh G. Use of Auricular Cartilage for Closure of Oroantral Fistula: A Prospective Clinical Study. J Maxillofac Oral Surg. 2016;15(3):293-299. Epub 2015 Sep 12.

28. Sakakibara A, Furudoi S, Sakakibara S, Kaji M, Shigeta T, Matsui T, Minamikawa T, Komori T. Tunnel Technique for the Closure of an Oroantral Fistula with a Pedicled Palatal Mucoperiosteal Flap. J Maxillofac Oral Surg. 2015;14(3):868-874. Epub 2014 Oct 7.