Central Asian Journal of Medicine

METHODS OF DIAGNOSIS AND TREATMENT IN PATIENTS WITH MAXILLARY SINUS CYSTS

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ABSTRACT

Maxillary sinus cysts are a type of cyst located within the maxillary sinus. These cysts can arise from various causes, such as infections, injuries, or congenital defects. If cysts are not treated in a timely manner, they can damage the jaw bones and disrupt the normal functioning of teeth. In our scientific study, the total number of patients was 140. According to the WHO classification, patients were divided into 3 age groups, and all of them underwent surgery. The first group consisted of 68 patients aged 18-44 years. The second group consisted of 45 patients aged 45-59 years. The third group consisted of 27 patients aged 60-74 years.

Key words: Maxillary sinus cysts, endoscopy, morphology, surgical methods, chronic rhinitis.

INTRODUCTION

There are several modern surgical methods for treating maxillary cysts. In this article, we will discuss the types of cysts, the factors that cause them, and the most effective surgical methods for treating cysts. Currently, in surgical interventions for chronic maxillary sinusitis, failure to consider the patient's anatomical features and understand the significance of nasal cavity structural anomalies in the development of maxillary sinus pathologies can be problematic [1,5]. Anatomical anomalies can complicate access to the maxillary sinus, as well as contribute to

and support the exacerbation of the chronic process. Therefore, when anatomically significant pathology is detected in the area of the nasal septum and nasal turbinates, it is recommended to perform additional surgical interventions, ranging from septoplasty to submucosal resection, to correct the altered anatomical structures. This allows for expanding the visibility of the surgical field and ensuring mobilization [6]. In cases of chronic rhinitis, operations are performed on the lower turbinates: submucosal vasotomy, conchotomy, lateralization, turbinoplasty, and others.

MATERIAL AND METHODS OF RESEARCH

Maxillary cysts are divided into several types

Radicular cyst: This cyst originates from the roots of the teeth, comprising 39.3% of the total number of patients in this group, i.e., 55 people. It usually forms on or around the root of the tooth and can be infectious. Such cysts can disappear after tooth extraction or treatment [11]. Morphological features: The cyst is usually circular or round in shape. The size of the cyst can vary, with both small and large cysts occurring. Cysts are usually filled with fluid and surrounded by connective tissue. On radiography, the cyst appears as a dark cavity in the bone.

Follicular cyst: This cyst develops from the dental follicle, accounting for 47.9% of the total number of patients, i.e., 67 people. This type of cyst is often associated with impacted teeth and usually requires proper diagnosis and treatment. Morphological features: A cyst can usually be flat or round in shape. The cyst is located around the tooth and is surrounded by follicles. This cyst is usually filled with fluid and can sometimes impede tooth eruption. On X-ray examinations, the cyst is visible in the center of the tooth or around it, and sometimes multiple follicular cysts may be present.

Odontogenic cyst: This type of cyst occurs during tooth development and accounts for 9.3% of the total number of patients, i.e., 13 patients. They appear between the roots of teeth and jawbones [13]. Morphological features: The cyst is usually flat or oval in shape. The wall of keratocysts consists of thin epithelial cells, which can cause them to fill with fluid and lead to rapid growth. On X-ray examinations, the cyst often appears as a separated area from the tooth root and bone.

Non-odontogenic cyst: Cysts not directly related to teeth, this group constitutes 3.5% of the total number of patients, i.e., 5 people. These may be more related to systemic infections or genetic factors. Morphological features: The cyst is usually round or oval in shape. Their walls are composed of more specific tissues and can be filled with fluid or gases. On radiography, these cysts are usually seen separated from bone structures or located far from the teeth. The

appearance of maxillary cysts can be associated with various reasons. Some common reasons include: Infection: Infections can damage tooth roots or jawbones, leading to the development of cysts. Dental trauma: Injuries to the teeth and jaw can cause the formation of cysts. Genetic factors: In some cases, cysts can be hereditary. Dental developmental disorders: Some teeth do not continue to grow normally after birth, or improper growth leads to the formation of cysts [10].

RESULTS AND DISCUSSION

During the scientific study, 140 patients were selected, divided into 3 groups according to age, and all of them underwent surgery. The first group consisted of 68 patients aged 18-44 years. The second group consisted of 45 patients aged 45-59 years. The third group consisted of 27 patients aged 60-74 years. There are several diagnostic methods for detecting maxillary cysts. These include: X-ray examination: Widely used for determining the condition of jawbones and cysts. With the help of X-rays, information about the location, size, and structure of the cyst can be obtained [11]. Computed tomography (CT): This method allows you to determine the exact location of the cyst and the extent of damage to the bone. Ultrasonography: Helps determine the connection of cysts with bone and soft tissues. Biopsy: In some cases, a sample and laboratory analysis may be required to study the cyst.

The main goal of cyst treatment is the removal of the cyst and preservation of the jawbones. With modern surgical methods, this process is becoming more effective and safe. There are several modern surgical methods for treating cysts:

Cyst removal. Cyst removal is a surgical procedure, particularly recommended when the cyst is growing and damaging the jaw bones. During this surgery, a small incision is made in the area where the cyst is located, and the cyst is completely removed. Afterwards, the wound site is properly sutured. Following cyst removal, special therapeutic measures are taken to prevent spontaneous recurrence. This method ensures complete removal of the cyst, depending on its location. During the surgery, the cyst is separated from the bone or tooth root. The procedure aims to achieve complete removal of the cyst through small incisions (or sometimes using more precise methods, such as microscopic access) [8.9]. Benefits: Minimally invasive procedure (small incisions). Quick recovery and reduced pain. Lower probability of recurrence after complete cyst removal. When is it chosen: When the cyst is small and clearly localized. When the shape and size of the cyst have not caused serious damage to the bone.

Laser surgery. Laser surgery is considered a new and effective method for treating cysts. Laser technology allows for high-precision work in the area where the cyst is located. This method minimizes damage to surrounding tissues, which

accelerates the recovery process and reduces the risk of infections [3,12]. Laser removal of cysts is a modern and minimally invasive approach. Using lasers, damaged tissues are quickly and accurately removed, significantly speeding up postoperative recovery. Benefits: Reduces blood loss. Performed using small incisions, which accelerates recovery. Less pain and discomfort. Low risk of infections. When is it chosen: For small or medium-sized cysts. When the cyst is located in soft tissues.

Endoscopic surgery. Endoscopic surgery is a minimally invasive method performed using special instruments through small openings to remove the cyst. With this method, the patient experiences greater comfort, as the recovery period after the operation is shortened. The method of removing a cyst using endoscopy is minimally invasive and is carried out using special optical instruments (endoscope) through a small opening [5]. In this method, the cyst's precise location is identified and it is completely removed. Benefits: Minimally invasive, small incisions. Reduced patient recovery time. Less pain and discomfort. When is it selected: When the cyst location is clear and small. If the cyst is located in the soft tissues of the upper jaw.

Bone grafting. Sometimes, after removal of the cyst, empty spaces remain in the jaw bones. In this case, special materials or bone grafts are used to fill these spaces in the jaw bones. This may be necessary for bone restoration and full restoration of tooth function. If gaps remain in the jaw bones after cyst removal, then special bone materials or bone grafts are used to fill these gaps. This procedure is usually used in cases where the cyst is large and has caused significant damage to the jaw bones. Benefits: The jaw bones are fully restored and their normal shape is reestablished. Facilitates tooth placement and dental implantation. When is it selected: When the cyst is large and has damaged the bone. If jaw bones need to be modified or restored.

Dental implantation. If a tooth is lost as a result of cyst removal, dental implantation can be performed to replace it. Dental implantation is the process of installing an artificial tooth root, which helps restore the patient's dental function. If a tooth is lost after cyst removal, then it may be necessary to implant an artificial tooth [9]. Dental implantation is carried out by inserting special material into the bone itself. As a result, the function of the teeth and jaw is restored. Benefits: Provides the ability to restore teeth. Ensures normalization of the jaw and oral cavity. When is it selected: If tooth extraction and dental implantation are necessary. In case of tooth loss as a result of a cyst. Modern approaches to the treatment of maxillary cysts are more individualized and minimally invasive.

CONCLUSION

These include: Multi-stage treatment: Cysts often require several procedures, such as cyst removal, bone grafting, and implantation. Rehabilitation and recovery: It is necessary to develop special rehabilitation courses and treatment plans for patients after surgery. This accelerates bone recovery and prevents infections [10]. Safe technologies: With the help of modern technologies, the processes of detecting and treating cysts have become much safer and more effective. This includes 3D radiography, high-precision lasers, and robot-assisted surgeries.

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