On the Surgical Treatment of Median Maxillary Cysts.

By

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Maxillary cysts are generally classified into lateral and median cysts, the former being situated lateral to the canines. At present there is hardly much disagreement regarding the treatment of lateral cysts. If the cyst is small and closely connected with the antrum, it is operated according to the Partsch I method, if it is larger extending to the region of the antrum, the rhinological method of Luc-Caldwell is preferred.

The case is different as regards median cysts. Their treatment — as BERGHAGEN says — is often rather troublesome. They generally originate from the lateral incisor, but often also from the central incisors or these are involved in the cyst. Because of the backward bend in the root of the lateral incisor the cyst often grows fairly far backwards along the palate. The palatine wall may often be completely resorbed and the cyst bulges out of the palate like an abscess. In the same way the so-called Gerber's ridge may bulge from the floor of the nasal cavity. Very many different methods of operation have been suggested, which shows that these cysts are difficult to deal with. Most of these methods are based on, or variants of, the Partsch I procedure. A flap is made by freeing the mucoperiosteum from the vestibular side, the outer cyst wall is removed and the flap pressed into the cystic cavity. Dressing is applied during a shorter or longer period, until the cavity, gradually healing, fills itself from the base of the cavity. The cyst has been transformed into a recess of the oral cavity.

The Partsch procedure has its disadvantages. For one thing, the cyst may originate from the lateral incisor and extend far backward with preserved vitality of the central incisor and the canine. It is difficult to make the exposure so wide that the cyst can heal from the base. The result is that there remains a depression in the form of a channel where food remnants collect

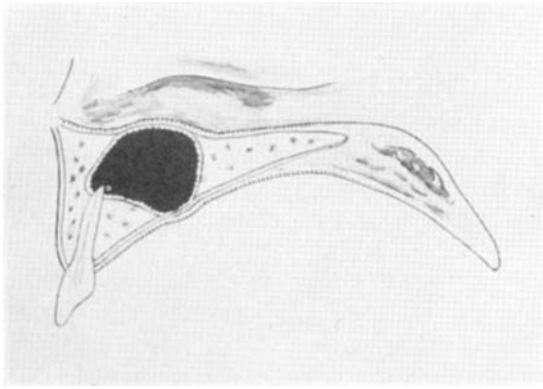

Fig. 1.

and cause discomfort. A second operation is then required, as suggested by Berghagen, but this operation is rather difficult and often not successful. I have had much trouble with this adjuvant operation. Treatment is protracted, too. Moreover a scar forms, which pulls the upper lip inward and the patients complain that the upper lip feels stiff on that side. Several times I have been told by patients that they feel some kind of pain in the area concerned. It is common knowledge that scars are susceptible to changes of temperature and often the site of shooting pain. Therefore attempts have been made to find new operative methods in which these discomforts connected with the Partsch I procedure would be eliminated.

As these cysts often destroy the bone under the floor of the nasal cavity and push it up, a nasal approach has been considered. GERBER has suggested an operation direct through the nasal mucous membrane which he frees and presses a flap into the cystic cavity. In this manner he transforms the cyst into a recess of the nasal cavity. However, this method was rather soon discarded because there was no possibility of providing a good

view of the operative field. LOEBELL then proposed the following method: open the cyst in the usual way according to Partsch I, enucleate the cyst wall, perhaps apicoectomy, and then make a large flap of the mucosa of the floor of the nasal cavity, press the flap into the cystic cavity, and suture the vestibular wound closely. The method seems to have met with some success. A

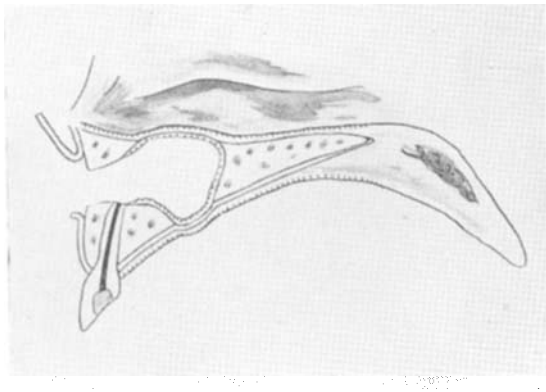

Fig. 2.

Finnish rhinologist, BJÖRK, has become its ardent advocate; he started using the same procedure independently of LOEBELL and, according to information, the result has been good in quite a number of cases. The method certainly has the advantage that the vestibular wound can be closely sutured and excessive scar formation thus prevented; in addition the treatment requires a shorter time. WASSMUND, however, rejects this method by stating briefly that it is too "intricate".

He suggests making a large flap of mucous membrane to cover the cystic cavity and make the nasal wall stronger. In this way a wide area of the alveolar process is exposed and allowed to heal by formation of granulation tissue. This method has the same drawbacks as Partsch I and no advantages over it. WASSMUND in certain cases recommends a surgical approach only from the palatine side, the flap being made of palatine mucous membrane and pressed deep into the cystic cavity. PICHLER goes still further. He removes a large piece of the palatine mucous membrane overlying the cyst and leaves the wound to heal after dressing. Both these methods have the disadvantage that the operative field

is not fully visible and for instance an apicoectomy offers great difficulties.

Loebell's method appeared to me chiefly because it was possible to see the conditions within the cyst and the vestibular wound could be closely sutured. But to transform the cyst into a recess of the nasal cavity was less attractive. Secretion might collect

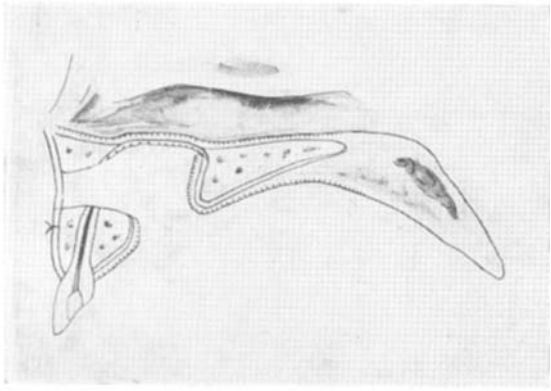

Fig. 3.

in the recess thus formed which, of course, might prevent healing, and a permanent cul-de-sac might arise in the maxillary bone. After trying this method a few times I decided to proceed in another way.

Because all large median cysts destroy also the bone on the palatine side so that the mucous membrane in most cases bulges, I decided — after opening the cyst from the vestibular side — — to free the cyst, perform an apicoectomy if necessary, and then remove a little more of the bone from the hard palate, to facilitate the making of a rather large flap from the palatine mucous membrane. This flap is then pressed into the cavity and kept in position with a dressing. The vestibular incision is then closely sutured. After five or six days the dressing and the sutures are removed. The wound is allowed to heal without further dressing. In more than 40 cases in the course of two years I have used this procedure for all large median cysts, with good result in all except one case. This was a large dentigerous cyst containing a supernumerary tooth and an undeveloped canine. A communication arose between the vestibule and the palatine side but this was due to

the suture across the vestibular wound opening. Nowadays I mostly use the so-called "marginal incision" in order to prevent accidents, as far as possible.

What are, then, the advantages of this method? For one thing, the view of the operative field is good, so that one can judge the case correctly without having to remove very much of the front wall of the cyst. Thus the adjoining, possibly vital teeth

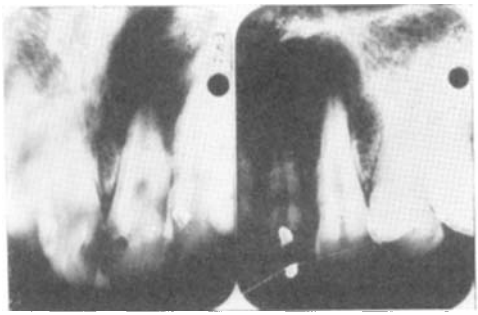

Fig. 4.

need not be sacrificed. With an exact suture, especially when using a marginal incision, scar formations with their adverse side-effects may be avoided. By making a marginal incision it is also possible to spare the nerve endings and blood vessels which generally have a parallel course from the fornix to the alveolar margin. The palatine mucous membrane is thick and a flap made of it often fills almost the whole cavity. Consequently no dressing is required, except the first to keep the flap in position during the first postoperative days until it has had time to become fixed.

Food remnants in the cavity may be easily removed by ordinary rinsing by the patient himself. But in most cases the cavity is clean because gravity as such prevents retention. Thus the time of treatment is minimized, to only 5 or 6 days.

When re-examining the cases it can be noted that the cavity has disappeared after a few weeks and in most of the cases no signs whatever of the operation can be traced on the palatine side. In a few cases there remains a small hollow which does not, however, cause any discomfort and can well be taken for a depression between the rugae palatinae. The scar on the vestibular side looks neat, especially if a marginal incision has been

used. The greatest advantage in my opinion is that treatment is short and dressing is not needed.

As in the case of all larger cysts where the palatine bone lamella has already disappeared, healing usually takes place in the form of a hard fibrous tissue. The fact that, in the roentgenogram, the bone structure is sharply defined with less shadowing shows that, to some extent, even bone regeneration occurs.

The anaesthetic of choice at such operations is extraoral conduction anaesthesia administered into the foramen infraorbitale after premedication with scopolamin or morphine-atropine.

Finally an illustration of a typical case. A large cyst originating from the upper left lateral incisor is seen. The shadows of the roots of the central incisor and the canine — both vital — are also visible. A marginal incision was made and then a small opening at the root of the lateral incisor. Through this opening an apicoectomy was done and the cyst enucleated. Next a flap was made of mucous membrane from the palatine side and pressed into the cavity. The vestibular incision was closely sutured. The vitality of the central incisor and the canine was preserved.

This method can be used with equal advantage in cases of extensive osteomyelitis in the region of the incisors. The procedure is simple, not in the least "intricate", and I therefore recommend my fellow-surgeons to try it.

Zusammenfassung.

Der Verfasser beschreibt die gegenwärtigen Operationsmethoden der grossen medianen Zysten des Oberkiefers. Weil er mit diesen Methoden nicht zufrieden ist, hat er folgende Methode angewandt. Mit einem vestibularen Schnitt wird die Zyste geöffnet und ausgeschält. An der Seite des Gaumens wird ein Schleimhautlappen gebildet und in die Zyste eingedrückt und dort mit einem Tampon festgehalten. Falls der Knochen auf der palatinalen Seite nicht so viel resorbiert ist, dass man einen Lappen machen kann, wird mit einem Meissel vom Knochen abgetragen. Die Zahnwurzel wird reseziert und die vestibuläre Wunde suturiert.

Die Vorteile sind: auf der vestibulären Seite ist nur wenig vom Knochen abzutragen, wodurch man grössere Möglichkeiten hat, die benachbarten, vielleicht vitalen Zähne zu schonen. Auf dieser Seite entsteht kein tiefer Hohlraum, der oft eine für den Patienten lästige Vertiefung hinterlässt. Die Schleimhaut bleibt, wie vorher,

auf dieser Seite, was kosmetisch vorteilhaft ist. Der palatinale Tampon ist nur ein paar Mal auszuwechseln, wodurch die Behandlungszeit verkürzt wird. Der Verfasser hat mit Erfolg sehr viele Zysten sowie auch grössere ostitische Herde laut dieser Methode behandelt und hofft, dass die Kollegen sie prüfen werden.

Résumé.

L'auteur rend compte d'abord des méthodes qu'on applique aujourd'hui dans les opérations des grands cystes de la mâchoire supérieure. Comme elles selon lui ne sont pas satisfaisantes, il a introduit la méthode suivante. Par une incision vestibulaire on ouvre le cyste qui est écalé ensuite. Dans le côté palatal on fait dans la muqueuse un lambeau qu'on presse au fond du cyste et tient là par un tampon. Dans le cas où l'os du côté palatal n'est pas encore résorbé à ce point qu'on peut faire le lambeau, on enlève de l'os par un ciseau à un degré nécessaire. La racine du dent est recepée et l'incision vestibulaire est suturée exactement.

Les avantages sont: du côté vestibulaire on a besoin d'enlever de l'os seulement quelque peu, donc il est plus facile de maintenir les dents voisines vivantes. Dans ce côté on ne se produit aucune cavité profonde dont la guérison prenne beaucoup de temps et laisse souvent une anfractuosité qui est très pénible. Il n'est besoin de renouveler le tampon palatal que quelques deux fois de sorte que le traitement est court. L'auteur a soigné par cette méthode plusieurs dizaines de cystes et aussi des ostéomyélites assez grands avec bon succès.

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