

CYSTS OF THE FLOOR OF THE NOSE.¹

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THE variety of nasal cyst which is the subject of the present communication is quite distinct from the cyst occasionally found in polypi, and from the so-called cysts of the middle turbinate or septum.

The three cases of cyst of the floor of the nose that have come under my notice had reached different stages of growth, and a short description of these may convey an idea of the clinical features of the disease.

All three patients were females; their respective ages being twenty-seven, fifty-eight, and thirty-two. The tumour in each instance appeared in exactly the same situation, namely, on the floor of the nose at its anterior end, just behind the junction of skin and mucous membrane.

In the first case the cyst was discovered by accident, the patient being unaware of its presence. It formed a light grey, fluctuating, hemispherical eminence about the size of a pea, and was situated on the floor at the extreme anterior end of the right inferior turbinate. It had given rise to no symptoms. When punctured, a thin, pale yellow fluid exuded, the elevation subsided, and the inferior meatus assumed a perfectly normal aspect. The patient was seen two months later, when no recurrence had taken place.

The second patient complained of a fulness beneath the left ala nasi. Twenty years or so previously, in consequence of a gumboil, a hard swelling formed in the same situation, which, after persisting for several years, burst, and a yellowish fluid escaped from the nose. She had no further trouble in this region until two or three months before seeing me, when the swelling began to form again. It caused her no discomfort, and the only external manifestation was a scarcely perceptible obliteration of the naso-labial sulcus. The intranasal appearances were much the same as in the previous case, but the prominence was greater. Incision of this was followed by complete collapse of the sac, so that it was impossible to remove a piece of the wall. The patient at once remarked the difference. Three months later there was no sign of recurrence.

In the third patient, who was referred to me by Dr. Douglas Russell, the cyst had attained a still more advanced stage of development, and gave rise to marked facial disfigurement and considerable suffering. She stated that for several months she had had pains in the face, temple, and above the eye on the left side. Three weeks before coming under my charge throbbing pain had set in in the neighbourhood of the left ala nasi, and a week later she noticed a slight swelling here which had gradually increased. When first seen by me the left ala was prominent, and the corresponding nasal orifice gaped unduly. In the nose there was marked bulging of the skin lining the lower and outer part of the

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vestibule, and of the mucous membrane below the anterior end of the inferior turbinate. The swelling, which was very tense and tender, passed downwards into the incisor fossa, and was freely movable in relation to both skin and bone. On puncturing the prominent part in the nose, a quantity of pale yellow, transparent fluid gushed out, and a little pus on pressing the sac. The patient experienced immediate relief, and the nose assumed its normal appearance.

For the following few weeks nothing further was done, a moderate discharge, at first watery, but afterwards purulent, flowing meanwhile from the affected side of the nose. As there was no indication of this abating cocaine was injected, and the cyst cut down upon from the gingivo-labial fold. It was found lying against the periosteum in the incisor fossa, extending beneath the floor of the vestibule from the middle line to beyond the outer margin of the ala. The sac was dissected out, the wound healed in due course, and the patient experienced no further discomfort in this region.

The cyst proved to be as large as a hazel nut, with a wall of from one to two millimètres in thickness, and sufficiently rigid to maintain the lumen. At the lower end there was a soft fleshy mass. Dr. L. R. Sutherland, Senior Assistant to the Professor of Pathology in the University of Glasgow, kindly made a microscopic examination of the growth, and reported as follows: "The wall of the cyst is lined by epithelium from two to twelve cells deep. The cells of the deepest layer have a more or less cubical form, and are set on a broad basement membrane. The epithelial nuclei have a circular or oval outline, and stain sharply throughout. In certain places a tendency is shown to the formation of ingrowths into the cavity. The sub-epithelial matrix is in great part composed of loose fibrous tissue, through which very numerous dilated blood-vessels course. Here and there this tissue is overrun with round cells. The fleshy mass at the lower end is composed of altered gland tissue."

Cases of the same nature as those just described have been recorded by Chatellier, McBride, Dunn, and Knapp; and in 1894 Dr. Milligan read the account of a similar case at a meeting of this Society. Zuckerkandl, in the course of his extensive anatomical investigations, has met with an isolated nasal cyst only once; it was evidently identical with those we have at present under consideration.

Besides the cases reported by the authors mentioned, in which the affection was assumed to be of a cystic nature, a case has been described by Lacoarret of recurrent abscess of the floor of the nose, and another by Bobone of serous perichondritis of the alar cartilage, in both of which the clinical features closely resembled those of nasal cysts.

From a survey of all these cases, we get the picture of a morbid condition presenting well-defined characteristics. A brief sketch of these may perhaps be permissible, especially as there is no published account of this affection as a whole, so far as I am aware. The patients are females; but whether this has been merely a coincidence, so far the small number of cases at present on record—twelve in all—does not allow us to determine. The age has varied hitherto between nineteen and fifty-

eight. As a rule no cause is discoverable, but in several instances the onset has dated from an acute inflammation of the neighbouring tissues. The usual first indication of the cyst is the presence of a small swelling beneath the ala perceptible to the patient only. The swelling having attained a certain size, sometimes remains stationary for months and gives no trouble ; sometimes, however, it enlarges rapidly and causes considerable pain. Before this stage is reached the tense and slightly fluctuating growth can be felt in the incisor fossa, where it is non-adherent to the skin and bone. The size varies between that of an almond and a walnut. As the sac develops external signs become manifest ; at first a slight shelving of the lower half of the nose on the affected side, with more or less obliteration of the naso-labial sulcus ; later a distinct bulging, which is best marked at the attachment of the ala. Occasionally the cyst bursts, and there is no recurrence for years. On the other hand, if secretion continues to escape by the perforation it may become purulent.

The appearances within the nose vary only in degree. When the cyst is small, it forms a greyish hemispherical eminence about the middle or outer half of the floor of the nose and just behind the junction of skin and mucous membrane. As the sac enlarges it extends backwards to the anterior end of the inferior turbinate, or a short distance below this, but rarely or never inwards to touch the septum. After the prominence in the nose has attained a certain size—on an average, that of a pea—the subsequent development appears to be downwards into the incisor fossa, and forwards.

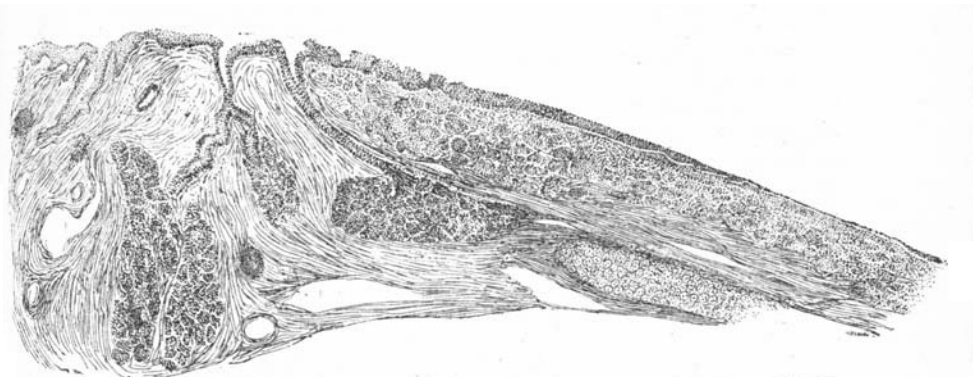
As to treatment, incision, or aspiration of the contents, with or without the injection of an irritant, suffices when the cyst is small. Persistence of the discharge after the sac has been opened may be checked by destroying the lining membrane with the galvano-cautery. When the cyst has attained a fair size, however, nothing short of its excision from the gingivo-labial fold is of avail.

Before referring to the pathology of these growths it should be mentioned that they have no genetic connection with the teeth ; this is evident from their situation at an early stage, and from the fact that in several cases the teeth have been intact. The incisor foramen with its glandular contents, although suggestive etiologically, may also be excluded, it being situated deeper in the nasal fossa, and nearer the middle line. A possible embryological origin should, however, be kept in view, for the union of the superior maxillary and median nasal processes is effected at, or very close to, the region in which the cysts develop.

The views advanced as to the origin of these cysts have been purely speculative. In the majority of cases they have been regarded as retention cysts, but no explanation has been offered as to why they have always occurred in exactly the same situation, and in that only.

With the object of finding, if possible, the anatomical conditions which favour the development of cysts in this particular region, the hard palate and median portion of the alveolar arch were removed from several subjects, and series of transverse and sagittal sections were cut of the lining membrane stripped from the floor of the nose.

The sagittal sections, which included the skin of the vestibule and the underlying tissues, showed best the relations of the region in which



Antero-posterior section of floor of nose (in outer half) ; including part of vestibule, transitional area, and small portion of lining membrane of nasal fossa.

the cysts originate, and a drawing of one of these sections from about the middle of the floor is here presented.

For our present purpose it is unnecessary to do more than describe in very general terms the appearances observed. Commencing posteriorly it will be seen that the lining membrane in almost its entire thickness is made up of glandular tissue ; in passing forward, and approaching the alar cartilage, however, the membrane increases in depth, and the glands are gathered into large, sharply defined collections with fibrous tissue between. From these glandular collections long ducts pass upwards—two are shown in the figure—and open on the surface where its characters are those intermediate between skin and mucous membrane. In several instances cyst-like dilatations of these ducts were noted.

The fact that the position of these long ducts coincides with that of the cysts just described, raises a strong presumption as to the origin of the latter. The early appearance of the growth on the floor of the nose, where it attains only a limited size owing probably to the thinness and firm attachment of the lining membrane, the subsequent extension downwards through the loose connective tissue, and the similarity of the affection to perichondritis of the alar cartilage, are all in harmony with the anatomical relations referred to above.

We are, therefore, probably justified in regarding these as retention cysts. As to what may be the cause of the blocking of the duct we can merely theorize ; it is very likely, however, that at least in some cases, as above indicated, this may be of inflammatory origin.

The uniform character of the clinical features, and the constant, though possibly interrupted, course of development, entitle us to place these cases in a distinct category, which, when compared with the other varieties of nasal cysts—namely, cysts in polypi, and the so-called bony cysts of the middle turbinate—represents the most typical form of cyst that occurs in the nasal fossæ.

REFERENCES.

- CHATELLIER, H. Glandular Retention Cysts of the Anterior Part of the Nasal Fossæ. "Journ. of Laryngol., Rhinol., and Otol.," 1892, p. 182.
- MCBRIDE, P. Cysts of Tonsils, Nose, Larynx, and Ear. "Brit. Med. Journ.," May 14, 1892, p. 1011. And Diseases of the Throat, Nose, and Ear (2nd Edition), Edinburgh, 1894, p. 330.
- ZUCKERKANDL, E. Normale und pathologische Anatomie der Nasenhöhle und ihrer pneumatischen Anhängen. Band I., 2te Auflage, 1893, p. 250.
- DUNN, J. A Case of Cystic Tumour of the Floor of the Nose. "New York Med. Journ.," Feb. 24, 1894.
- KNAPP, H. On Sero-Mucous Cysts beneath the Wing of the Nose; with the Report of a Case. "Journ. of Laryngol., Rhinol., and Otol.," 1894, p. 300.
- MILLIGAN, W. Case of Sero-Mucous Cyst of the Anterior Part of the Left Nasal Fossa. "Journ. of Laryngol., Rhinol., and Otol.," 1894, p. 814.
- LACARRET, L. Abscès à Répétition du Plancher des Fosses Nasales. "Annales de la Policlinique de Toulouse," March, 1894, p. 45.
- BOBONE, T. Pericondrite sierosa dell' Ala Destra del Naso. "Bolletino delle Malattie dell' Orecchio, della Gola, e del Naso," 1895, No. 6, p. 159.

CONTRIBUTION TO THE COMPLICATIONS FOLLOWING EXTIRPATION OF SO-CALLED ADENOID VEGETATIONS.

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To the more important, though generally rare, complications following this operation, as I recently pointed out in my "Manual of Diseases of the Nose, etc.," belong—

1. Affections of the middle ear (otitis media acuta) and its consequences, perforation of the middle ear, membrana tympani, and affections of the mastoid process, etc.

2. So-called follicular angina, or, more correctly, acute lacunar tonsillitis.

3. Still more rare, secondary hæmorrhage (Newcomb's case fatal).

4. Impaction of fragments in the air passages (Helme's case).

As I have remarked, in these cases complications are relatively rare. For my own part, out of about four hundred operations, I have scarcely seen the first twice, the second several times, secondary hæmorrhage once slightly, never the others.

Quite recently I observed an unusual complication after the removal of post-nasal growths, which I will briefly narrate.

On the 7th of February last, assisted by Dr. Rorsuk, I performed the usual operation under chloroform on two children, brother and sister, aged respectively five and seven. Both children show distinct signs of scrofula (cervical adenitis), the father suffers with catarrhal otitis, the mother has chronic naso-pharyngeal catarrh, the rest of the children (four in number) have also symptoms of scrofula (cervical adenitis, adenoids, besides one has otorrhœa).