

DERMOID CYST OF THE NOSE

By RANDELL CHAMPION, M.B.E., F.R.C.S.Ed., and
J. B. PRENDIVILLE, F.R.C.S.I.

Plastic Unit, Wythenshawe Hospital, Manchester

MIDLINE dermoid cysts of the bridge of the nose are comparatively rare, but during the past four years four cases have passed through our hands. None of these cases was diagnosed before being referred, and two had received inadequate surgical treatment.

A proper knowledge of the anatomy of these tumours is essential before undertaking any curative procedure. Their origin is difficult to explain as there is no embryonic line of fusion in the fronto-nasal process where they develop. Brunner and Donnelly (1947), in their comprehensive investigations into the development of these tumours, studied cross-sections of the nasal cartilage in the newborn. This, they state, consists of a single cartilaginous plate covered anteriorly by fibrous tissue of dural origin and skin. During the formation of the nasal bones, the upper portion of the cartilaginous plate becomes separated from the skin and disappears, whilst the lower portion of the plate forms the lateral alar cartilages. The site between the nasal bones and embryonic cartilage has been called the pre-nasal space, and it is here that the nasal dermoid is found. The skin at this point is said to remain adherent to the cartilage, and as the bone grows over, it may become invaginated into this pre-nasal space. When a dermoid is found, the underlying cartilage persists as a lining to the cavity in which the cyst lies.

ANATOMY

These congenital abnormalities are situated on the bridge of the nose from the tip to the region of the glabella and may be in the form of a small dimple or sinus leading to a cyst lying beneath the nasal bones. The nasal bones tend to be more prominent because of the effect of the pressure of the cyst, and the bony septum in this region is usually bifid. The cavity in which the cyst lies is lined by cartilage and may extend as far as the cribriform plate of the ethmoid or lie on the frontal sinuses. The cyst communicates externally by a single tract but is constricted where it passes through the nasal bones, giving an "hour-glass" effect. The pathology is that of a simple dermoid cyst in which the lining and wall consist of dermal tissue containing sebaceous glands and hair follicles. The contents are made up of keratinised cells, sebaceous material, cholesterol crystals, and hairs.

CLINICAL FINDINGS

They are first brought to notice in childhood as a small dimple or swelling on the dorsum of the nose. Medical advice is usually sought when the nasal bones are obviously broadened, when the cyst is discharging sebaceous material, or when it has become infected. A cyst may develop beneath the skin so as to give an enlarged drooping tip.

On examination there is either a dimple or a sinus with a cystic swelling and broadening of the nose. Inflammatory changes with associated scarring and secondary fistulous openings may be found on the dorsum of the nose and occasionally extending to the inner canthus region. Thick, cheesy material and hairs may be expressed by manipulation. Radiological examination may show a bifid nasal septum. Lipiodol injection is difficult and unsatisfactory owing to the thick cheesy contents, but when successfully performed it will show the size of the cyst and the extent of its penetration beneath the nasal bones.

DIFFERENTIAL DIAGNOSIS

Sebaceous cyst, sequestration dermoid, hæmangioma, and meningocele should be considered. It may be difficult to exclude sebaceous cysts and sequestration dermoids situated on the midline of the dorsum of the nose. Hæmangiomata usually have a bluish tinge and tend to empty on pressure. Meningoceles are more soft and fluctuant, they increase in size on jugular compression and contain a clear fluid.

TREATMENT

Treatment consists of complete excision of the sinus and the cyst. A midline incision is made with an ellipse round the opening and the sinus dissected to the junction of the nasal bones. At this point the sinus tract becomes constricted, and to ensure adequate removal some of the surrounding soft tissue and cartilage should be excised. The deep part of the cyst can be shelled out from its cartilaginous wall by blunt dissection, but when it extends towards the cribriform plate of the ethmoid the nasal bones may require separation. It is sometimes necessary to adjust the nasal bones to obtain correct alignment before closing the wound, which is sutured in one layer. Where multiple fistulæ and dense scar tissue are excised the defect may be repaired by a small forehead flap.

CASE REPORTS

The following is a brief résumé of the four cases seen.

Case 1.—In August 1948 an 18-month-old boy presented with a cystic swelling over the bridge and a small dimple near the tip of his nose. The dimple had been noted at birth, and there had been some watery discharge when the child cried. When the boy was 12 months of age the cystic swelling became apparent. A dermoid cyst was diagnosed and at operation this was found to extend beneath the nasal bones and was completely excised.

Case 2.—In June 1948 a 2½-year-old boy presented with a large bulbous tip of his nose and a small sinus at the tip. This condition had been present since birth, but recently it had increased in size and discharged thick cheesy material. A dermoid cyst was diagnosed and at operation it was completely excised. The cyst was found to extend to the cribriform plate and the septum was bifid.

Case 3.—In August 1951 a 3-year-old girl presented with a broadened nose and a small palpable cyst about the middle of the bridge. There was a history of several abscesses on the dorsum which had been incised. On examination there was a small

cyst lying beneath the vertical scar with a small sinus near the tip. This was diagnosed as a dermoid cyst. At operation the sinus was found to extend beneath the nasal bones, forming a large cyst containing hair. This was fully excised (Fig. 2).



FIG. 1

Case 3. Four days post-operative to indicate incision.



FIG. 2

Case 3. Specimen of cyst dissected from nose.

Case 4.—In December 1951 a boy aged 3 years presented with a cyst and dimple on the bridge of his nose. The dimple had been noticed at birth, and at 12 months a



FIG. 3



FIG. 4

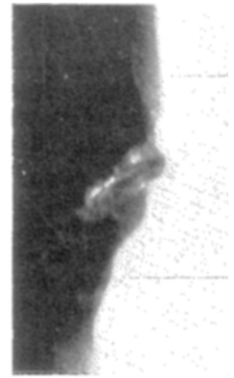


FIG. 5

Figs. 3 and 4, Case 4. Pre-operative to show fistula and swelling of nose.

Fig. 5, Case 4. Pre-operative after lipiodol injection to show extent of cyst with radio-opaque shadow.

cyst had developed over the bridge and left side of the nose. A sinogram carried out with light lipiodol showed a sinus running down beneath the nasal bones into a large cyst, extending upwards to the cribriform plate. The patient is awaiting treatment (Figs. 3, 4, and 5).

SUMMARY

Midline dermoid cysts of the nose have been described, and their development, anatomy, and diagnosis discussed. It has been stressed that successful treatment depends upon adequate knowledge of their anatomy. A brief history of the four cases seen by us has been presented.

REFERENCE

BRUNNER, H., and DONELLY, W. A. (1947). *Plast. & Recons. Surg.*, 2, 497.