A CASE OF BIFID NOSE.

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THE class of facial deformity which depends on failure of union of the *two mesial nasal processes* is rare, much rarer than that due to failure of union between the mesial and lateral nasal processes. To the latter class belong the usual type of hare-lip and cleft palate.

The median portion of the face is developed from two pairs of facial processes, the lateral, and the mesial, which enclose the olfactory pits. These are vertical septa growing from the base of the primitive cranium. The parts seen on the face are the anterior extremities of these septa. The two median processes are fused above in the area known as the nasal field, and have two globular enlargements below as tips. From the mesial processes are developed, the nasal septum, the columella, the mid portion (lunula) of the lip, and the premaxillæ. These processes may fail to unite in the second month (see Figs. 2, 3, and 4).

True median hare-lip is the best known deformity which may result. Other deformities referable to the same cause are median cleft palate, bifid nose, and median dermoid cysts or fistulæ of the ridge of the nose. These latter are due to epithelial remnants enclosed in the process of fusion, and are not uncommon. The writer has seen and operated upon a fair number. In the case of fistulæ, the opening on to the skin is at the lowest part of the fistula, the track of which runs upwards. The writer has also seen a case of central hairy mole on the ridge of the nose, the long axis of which was directed upwards, which he considers to have been due to a modification of the skin at the line of fusion of the mesial nasal processes. Hairy moles of similar origin are not infrequent in the middle line of the back just above the sacrum (spina-bifida area).

The patient who is the subject of this communication is a boy aged 12. He was first seen by the writer at the Sheffield Royal Hospital when he was eight months old. The case was reported at a meeting of the Section of Laryngology, Royal Society of Medicine, in February 1910.* There is a photo-

* *Journal of Laryngology*, 1910, p. 131.

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FIG. 1.—Aged 8 months.

FIG. 5.—Aged 11 years. Before Operation.

FIG. 6.—Aged 12 years. After Operation.

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graph of the baby in Sir St Clair Thomson's well-known text-book,* which is reproduced in Fig. 1.

The deformity consisted of a deep depression in the middle line of the nose, with wide separation of the nostrils and flattening and broadening of the whole feature. The nose was 3 cm. wide at the level of the alæ, but only projected about 1 cm., the greatest projection being on either side of the middle

FIG. 2.†—Showing the formation of the Face by the Nasal, Maxillary and Mandibular Processes in an Embryo of the fourth week. (After His.)

FIG. 3.†—Showing the parts of the Face formed from the Nasal, Maxillary, and Mandibular Processes.

FIG. 4.†—Median Hare-Lip in a Child with Partial Cleft Palate and Ectopia of the Pituity. (Mr A. R. Tweedie's case.)

line in front of each nostril. These two prominences were separated by a depression of the tip of the nose 2 cm. wide. The nasal bones and nasal processes of the superior maxillæ were flattened. The columella was 2 cm. broad, and the anterior nasal spine could be felt behind the columella as a broad projection of bone, about 1.5 cm. from side to side. On inspection

* *Diseases of the Nose and Throat*, Sir St Clair Thomson, p. 4.

† Reproduced from Keith's "Human Embryology and Morphology," pp. 140 and 142, by kind permission of Sir Arthur Keith and Mr A. R. Tweedie.

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of the nasal passages, the anterior ends of the nasal septum could be seen as a prominent ridge on the inner side of each vestibule. The two sides of the septum were evidently separated from each other. There was no nasal obstruction. On everting the upper lip a distinct notch on the buccal surface, in the very centre of the lip, could be seen (slight condition of median hare-lip). There was also a well-marked notch in the middle line of the alveolar process (slight condition of median cleft palate). The two halves of the alveolus were not in alignment, but met with a forward projecting angle.

The question of operation was considered, but did not seem advisable to the writer, as he foresaw that any attempt to bring the two separated halves of the nose together would reduce the nostrils to almost horizontal slits and would render nasal breathing impossible. It was decided to wait until the growth in size of the organ had given it sufficient forward projection to obviate this danger.

The boy was brought up again to the hospital in December 1920, being then 11 years old, when the photograph reproduced in Fig. 5 was taken. The separation of the tips of the alar cartilages with the deep depression between and above them, and broadening of the feature across the bridge made a very noticeable deformity. The boy and his parents were anxious to have something done to correct it.

First Operation, 15th December 1920.—The nose was split by an incision in the middle line extending from the forehead to the base of the columella, and the skin was dissected back from the underlying cartilage in two flaps. The depressed area above the tips of the alar cartilage was found to be floored by cartilage (the united lateral cartilages) stretching across from side to side, but there was only soft connective tissue between the projecting apices of the vestibular cartilages. This was dissected away. The splayed anterior ends of the separated halves of the septal cartilage were dissected submucously out of each vestibule. The broad buttresses of bone forming the anterior nasal spine were chiselled away. It was found to be separated mesially into two halves.

Both nasal bones were removed subcutaneously, and sufficient cartilage was cut away from the lateral cartilages on either side of the septum to allow the sides of the nose to be approximated. The alar cartilages and the remains of the lateral cartilages were then sutured together with catgut, so as to

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approximate the two halves of the nose. The projecting tips of the alar cartilages could not be approximated as much as one would have wished, on account of the undue narrowing of the nostrils which would have resulted. The skin incision was sutured accurately.

Second Operation, 21st November 1921.—Cartilage for implantation was obtained by partial resection of the seventh right costal cartilage.

The skin over the nose was again incised through the lower half of the former scar. One flat blade of cartilage was inserted into the columella as a prop to support the second spar of cartilage which was inserted to form the ridge of the nose, and a lobule of subcutaneous fat from the chest wound was tucked in to make a fresh tip to the nose, and to conceal the outlines of the cartilage supports. The skin was sutured over all. The wound after both operations ran an aseptic course. The after-treatment consisted in painting the skin of the nose with picric acid solution, and keeping it covered by the writer's perforated metal nasal shield.*

The two central incisor teeth, which were directed horizontally inwards overlapping one another, were removed.

The result is shown in the photograph, Fig. 6. It is by no means a perfect result. The approximation of the alar cartilages is not so close as one would wish, but it is as close as one could get it, having due regard to the patency of the nostrils, and taking into consideration the intractable resiliency of the cartilage tending to bring it back to its former position. The tension of the skin of the tip of the nose, which was considerably stretched by being propped up by the inserted cartilages, has somewhat flattened the lobule of fat inserted into it at the second operation. It is undeniably a snub nose, but not such a feature as to immediately draw the attention of passers-by. As compared with the condition before operation, it is a distinct improvement.

* See *Journal of Laryngology*, 1919, p. 2.