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REPRINTED FROM
UNIVERSITY MEDICAL MAGAZINE,
July, 1890.

THREE CASES OF OCCLUSION OF THE NARES BY
DEFLECTION OF THE NASAL SEPTUM;
OPERATION.

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THREE CASES OF OCCLUSION OF THE NARES BY DEFLECTION OF THE NASAL SEPTUM; OPERATION.

THE following cases are representative of a form of nasal deformity which is far from uncommon, although, in these cases, the degree of abnormality and the consequent derangement of function were unusually marked. The operation employed is similar to one devised by Dr. Harrison Allen.

CASE I.—W. H.; aged 30 years. The nose is bent to the left and is slightly flattened. Examination through a nasal speculum shows the right naris to be almost occluded by the curved nasal septum, which has been forced against the anterior part of the lower turbinate body and nasal process of the superior maxilla, and then bent sharply to the left. There is no fracture of the cartilage. Beneath the occluding mass a small opening admits a probe into the inferior meatus, and through this opening the patient can inspire air when this nostril is drawn forcibly open. The left naris appears as a roomy chamber, showing the concave side of the deflected septum and a prominent ridge caused by the vomer and anterior nasal spine, the triangular cartilage having been partially detached from these by the same force which caused its deflection.

The mucous membrane of the naso-pharynx is much sclerosed. Masses of thick secretion collect about the openings of the Eustachian tubes. The patient breathes almost constantly through his mouth. His larynx is congested and the vocal cords are hyperæmic.

He is intensely deaf, the watch being heard R = $2\frac{1}{2}$ inches; L = 0, but faintly on contact. He can hear the voice only when raised to a shout, and even then words and sentences must often be carefully repeated. Tinnitus aurium is very distressing. His aural symptoms have existed only three years, being at first scarcely noticeable, but progressing rapidly. The nasal deformity he thinks due to a blow from a baseball bat received many years ago.

The operation in this case consisted in separating the triangular cartilage from the vomer and anterior nasal spine by means of the Allen septum knife. The cartilage was then forced over as nearly as possible into the median line. A steel pin two inches long was then inserted into the concave face of the septum—its left side—anteriorly, and pushed through into the right naris. The cartilage being held in its new position, the pin was pushed on in this naris, and its point re-inserted in the septum at a point near the junction of the vomer and perpendicular plate of the ethmoid. The forward end of this pin forced the anterior end of the cartilage into the median line, while its central part held the body of the cartilage in the same plane. To strengthen this brace a pledget of bichloride cotton was fitted into the right naris. This was renewed daily, the nasal chambers being cleansed at the same time with antiseptic and detergent solutions.

The pin was removed on the tenth day, but the cotton dressing was continued for over two weeks.

During the operation there was but slight bleeding. There was no subsequent hemorrhage. Anæsthesia was produced by plugging the nares with cotton soaked in a 5 per cent. solution of cocaine, which remained in place for ten minutes before the operation was commenced. The patient experienced very little pain, and never complained of any during the after-treatment except upon the removal of the pin.

The right naris is now well open and the end of the nose much more nearly in the median line. The septal deformity has by no means been entirely overcome, but has been lessened to a degree which allows the right naris to perform its functions, and the patient's appearance is decidedly improved. Since this operation, treatment for his deafness and tinnitus—which had long been carried on in vain—has given very satisfactory results. His membrana tympani indicated the existence of plastic adhesions, although both responded feebly to manipulation with Siegle's pneumatic speculum. He now states that his subjective noises have greatly lessened, being often scarcely perceived. There is absolutely no change in the watch test. However, the patient's hearing for *voice* has so improved that he now hears conversation clearly when carried on at only slightly above a natural tone. As he expresses it, "the words are no longer jumbled up."

CASE II.—L. T., aged 13 years. This boy fell down a stairway. As a consequence, his nose is flattened into a shallow saddle-back form, while the left nasal bone and nasal process of the left superior maxilla are arched into a rounded prominence. The left naris is totally occluded by the displaced and curved triangular cartilage, but a muco-purulent discharge finds space to ooze out between the septum and outer wall of nostril. The right naris is cavernous, and examination through it reveals a fracture of the triangular cartilage, the line of which runs at right angles to the anterior nasal spine. The two pieces of cartilage have united by a fibrous union which permits a hinge-like movement when the septum is pressed upon at this point. The anterior piece has also been loosened from the nasal spine. An extensive ulceration exists at the apex of the concavity, seen in the right naris, caused by retention of dried secretion. Hearing is almost normal. The boy breathes constantly through his mouth.

In this case, after the ulcerated condition of the septum had been cured by antiseptic washes, cleanliness, and protective ointments, the operation consisted of an incision through the fibrous hinge between the two pieces of the broken cartilage. The posterior piece was then separated from the vomer by means of Harrison Allen's septum knife. The entire cartilage was then forced toward the median line and a pin inserted as in the case last reported. This operation was done without ether, cocaine being efficient. Bleeding was not profuse; cotton pledgets were used to re-enforce the pin; these were renewed daily for almost three weeks; the pin caused considerable irritation and was, therefore, removed on the fifth day.

The result of this operation has not caused any change in the external appearance of the nose. There is now a good opening in the left naris, although the septum still impinges upon the anterior part of the middle turbinate body. The patient breathes easily through this naris, and the muco-purulent discharge has ceased. Both pieces of cartilage are united firmly, although it is doubtful if the union is cartilaginous.

CASE III.—F. W., aged 14 years. The nose is large and is deflected to the left; this bending involving its entire bony case. The nasal septum is bent to the right, forming an obtuse angle with the vomer, which is bent in the same direction. Thus the right naris is occluded. Both nasal chambers are unusually narrow. A hypertrophied lower turbinate body in the left chamber serves to partially occlude that passage, and during attacks of coryza this side is entirely closed. There is a history of traumatism as a cause for the deformity.

Treatment was first directed to reduction of the hypertrophied turbinate. This was accomplished by electro-cautery incisions in a line with the long diameter of the body, and carried down to the periosteum. A central contraction was thus channelled out. After

healing of this part, the septum was treated by an operation similar to that used for Case I. In this instance, however, a pin was not employed, the septum being retained in its new position by pledgets of lint and bichloride cotton. This dressing was continued for three weeks. The patient now breathes easily through both nares.

The main points of interest connected with such cases are the extent of the deformity, the comparatively slight change in structure caused by the operation, and yet the decided improvement in the patient's condition. The septum was not made absolutely straight in any of these cases. Indeed, it is doubtful if perfect straightness can be secured, as the perpendicular plate of the ethmoid and posterior parts of the vomer can be but slightly, if at all, affected by this operation. Then too, the bend of the cartilage has allowed the soft parts of the nose to mould themselves into a fixed shape in conformity to their points of support. As a result, the cartilage, when straightened, seems to be too large for the space it must occupy. This is even more noticeable in cases where the palate is formed into a high arch, a formation which may have developed subsequent to the nasal injury—although not as a consequence—where such injury has occurred in very early childhood. In spite of such difficulties, this operation can be efficient.

The pin, as a splint, is always an element of danger, and must be watched most carefully. In all cases where it has been used by the writer, it has caused considerable irritation at points where it bears strongly against the curves of the deformed septum.

To complete the operation, the writer has often found it necessary, although not so in the cases reported, to saw away the long hyperostosis which frequently exists on the vomer at its junction with the triangular cartilage. This ridge is often made even more prominent after the cartilage has been forced more nearly into the median line. The instruments employed in such cases have been the fine nasal saws of Bosworth. It appears to the writer that by their use the amount of tissue removed can be better measured than when a chisel is employed; nor do they seem to demoralize the patient so greatly as do the hammer strokes on the latter instrument.

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