UNILATERAL CHOANAL ATRESIA

A CASE REPORT

R. FARRUGIA RANDON
M.D.
House Surgeon,
St. Luke's Hospital

Summary

A report on a case of unilateral choanal atresia is presented. The etiology, diagnosis and treatment of the condition are also discussed.

Case Report

The patient, a sixteen year old girl, presented at St. Luke's Hospital with foul smelling discharge from the right side of the nose. The nasal discharge had been noted for over fifteen years. At five years her tonsils had been removed with the hope of curing the unilateral nasal obstruction of which she had always been complaining.

On clinical examination nothing abnormal was noted except that there was severe right-sided nasal obstruction. On posterior rhinoscopy a total bony atresia of the right posterior choanae was noted. A rhinogram was taken *(fig. 1)* and this showed a right-sided nasal obstruction. Patient refused treatment.

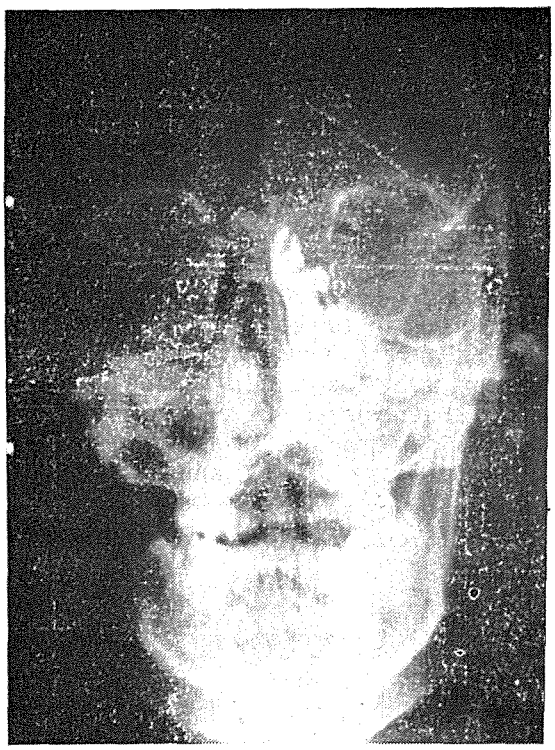

Fig. 1

Discussion

Choanal atresia was first described by Otto in 1830 (Otto A., 1830). This condition is a rare one. Polson *et al.* (1943) found that in the period 1829-1945, only five hundred cases had been reported. Later on, Ransome (1964) reported two-hundred and fifty-one cases in the period 1945-1963. Choanal atresia may be unilateral or bilateral .The nasal obstruction may be membranous and/or bony. Choanal atresia is a familial condition and may be associated with several other diseases such as high-arched palate, facial asymmetry, bifid uvula, coloboma of iris and retina, double tragus, double congenital aural fistula, cleft ear lobe, polydactylism, flat nose with separation of lower lateral cartilages, Teacher Collin's Syndrome, malrotation of gut, Meckel's diverticulum and congenital heart disease may all be found in connection with choanal atresia. In connection with unilateral choanal atresia one may find webbing of trapezium, high palate, lop ears and Turner's Syndrome. There is also a connection between unilateral choanal atresia and rhinoliths (Worgan, D., 1966). Such rhinolits occur more in female than in males and are found

mostly in the lower half of the nasal cavity. Fully sixty per cent of choanal atresias are unilateral and sixty per cent of the unilateral cases are right-sided atresias.

As regards etiology,most of the cases are congenital ,only very few being caused by syphilis, diphtheria, trauma or tuberculosis. The most widely held theory as to the etiology of this disease, is that which ascribes it to persistence and failure to rupture of the buccopharyngeal membrane. Some attribute the etiology of this disease to medial growth of the ventricle and the medial processes of the palatine bone.

As regards the clinical picture, most of the cases of bilateral choanal atresia present at birth with the respiratory distress syndrome and those who manage to live through mouth breathing will present later in life with mucoid secretion from both nostrils. As a rule the sinuses and ears are uninvolved and the hearing is usually unaffected. Cases of unilateral choanal atresia usually present with unilateral nasal obstruction and nasal deformity. Diagnosis of this condition is made on clinical grounds, probing, X-ray and posterior rhinoscopic examination.

As regards treatment (Charles R. and Smith R.) of the condition all bilateral choanal atresia cases need emergency operation and removal of the obstruction and insertion of Aechersen's cannulae, to restore patency of the nasal airway, while unilateral cases need no urgent treatment. Very few unilateral choanal atresia cases are operated before the age of three years and many are adults by the time diagnosis is made. Transpalatal approach for the removal of the obstruction is the best in adults and older children with unilateral obstruction.

Acknowledgements

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References

CHARLES, R., and SMITH, R., Clinical Surgery, 11, 182-184.

CHARLES, A., Lehrbuch der pathologichen Anatomie des Menschen und der Thiere, Berlin, A. Rucher, 1830.

POLSON-DUWARD and LORD (1943), Journal of Laryng, 60, 461.

RANSOME, J. (1964), Journal of Laryngology and Otology, 78, 551.

WORGAN, D. (1966), Journal of Laryngology and Otology, 80, 418.