Nasal polyps masking a unilateral choanal atresia

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Choanal atresia is a congenital anomaly characterized by failure of communication of the posterior nasal cavity with the nasopharynx. It may be a component of coloboma, heart disease, atresia of choanae, retard growth and development (CHARGE) association or central nervous system anomalies, genital hypoplasia and ear anomalies,[1] facio-genito-popliteal syndrome,[2] ileal atresia,[3] cerebro-costo-mandibular syndrome,[4] and has a family tendency. It maybe bony, membranous or both, bilateral or unilateral. Bilateral choanal atresia is a medical emergency in a newborn, presenting as respiratory distress and cyanosis, which are relieved by crying, while unilateral atresia maybe missed until late adulthood. Diagnosis is usually made clinically and confirmed radio logically, of which computerized tomograpy (CT) scan is the investigation of choice. A number of surgical approaches have been described namely trans nasal, trans palatal, transseptal I with variable results.

A 64-year-old female presented to the Otolaryngology Department, North West Armed Forces Hospital, Tabuk, Kingdom of Saudi Arabia, with a complaint of chronic right nasal blockage with on and off mucous discharge. She had nasal polypectomy twice in a different hospital with limited benefit. Patient is also a known case of hypertension, non-insulin dependent diabetes mellitus and bronchial asthma. Clinically, her right nostril was blocked. Naso-endoscope under local anesthesia showed multiple large benign looking polyps that were later confirmed histologically, mainly of the right nostril. Examination of the postnasal space was not possible. Arrangement was carried out for CT paranasal sinuses, of which the report correlated with the clinical finding; however, atretic bony plate of the right choana was overlooked (**Figure 1)**. During functional endoscopic sinus surgery and after excising most of the polyps, atretic plate of the right choana was noted. Attempt to brake down the plate but was not possible and required a major procedure. As the patient was not consented, it was decided to abandon the surgery. She had an uneventful postoperative recovery and after discussing the condition with her, she was reluctant to go ahead for further surgery. During the seventh week of embryologic development, the ectoderm that forms the cranium is separated from the stomodeum by a mesenchymal plate. This plate normally perforates; failure to do so results in choanal atresia. It is often associated with major craniofacial anomalies or visceral malformation. However, there was no report of association of nasal polyposis with choanal atresia as in our case. Moreover, the ipsilateral maxillary sinus noted here was not hypoplastic as previously hypothesized, and further

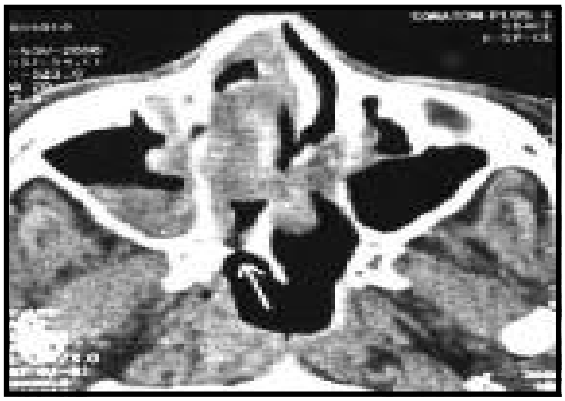

Figure 1 - Axial computerized tomograpy scan showing right choanal atresia (arrow).

supports that maxillary sinuses are independent of posterior nasal ventilation and drainage.[5] Unilateral nasal blockage in elderly patients should always be treated with high suspicious as to exclude malignancy. However, other benign conditions may be considered. It is usually diagnosed clinically and confirmed radiologically, of which, CT scanning is the investigation of choice. Although CT scanning is a valuable diagnostic tool it may have potential pit falls in the imaging of cribriform plate and mucoid secretions in the nasal fossa.[6] Computerized tomograpy imaging of the atretic plate in our case was clearly demonstrated, but missed by both the radiologist and surgeon. The most probable causes may be due to the gross pathology demonstrated in the paranasal sinuses that overwhelmed the examiner and the failure to undertake a systemic approach to study the films. Our patient had 2 previous conventional nasal polypectomy, and twice the atresia was missed, probably for the same reasons. Therefore, the presence of an obvious pathology causing a unilateral nasal obstruction in an elderly patient maybe misleading. Hence, it is imperative to be suspicious of the possibility of a second pathology in these cases. Treatment of choanal atresia is surgery. The techniques used to open the atresia included urethral sounds, trocar, endoscopic assisted drill,[1] Potassium titanyl phosphate and carbon dioxide laser.[7] Postoperative stent is often put to prevent stenosis. The choice of the procedure depends on the experience and skill of the surgeon as well as availability of the technology. Keeping in mind the medical condition of our patient, Tran nasal endoscopic air powered-drilling of the atretic plate would have been recommended, for a better and direct vision as well as shorter operative time.

In conclusion, unilateral choanal atresia is not a common congenital condition. It may be discovered much later in life in association with other nasal pathologies. The investigation of choice is CT scan inspite of its potential pitfall.

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