EXTERNAL RHINOPLASTY FOR DORSUM SWELLINGS

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Abstract: As any swelling over dorsum nose is cosmetically unacceptable so is the post-operative scar. The external rhinoplasty approach proceeds in the natural tissue dissection planes in the nose, thus ensuring minimal bleeding, improved exposure and good healing with minimal scar formation. We present cases of three different swellings due to rhinophyma, dermoid cyst and a rare interesting foreign body all dealt with external rhinoplasty approach with good results.

Keywords: External Rhinoplasty, Rhinophyma, Dermoid cyst.

INTRODUCTION

Rhinoplasty has come a long way since its detailed description as given by the father of modern rhinoplasty Jacques Joseph¹. The external rhinoplasty is based on Rethi's¹ approach to nasal tip. He utilized bilateral rim and high transverse columellar incision to have wider exposure of the nasal tip. Sencer of Zagreb¹ utilized Rethi's incision to expose rest of the dorsum of the nose and called his operation "decortication". Goodman¹ (1981) from Toronto refined this technique further and since then this technique of external rhinoplasty has come to limelight. External rhinoplasty has become an accepted alternative to traditional endonasal approach in certain gross deformities, marked deviations, revision surgery and in particular the management of cleft lip nasal deformities and closure of big septal perforation. It also forms an excellent access for excision, with minimal scarring, for lesions and swellings under the nasal dorsum, which may hitherto have been approached by a direct incision through nasal skin example: Dermoid cyst, Rhinophyma. In this technique marginal incision² at caudal border of lateral crura and cephalic border of medial crura is usually hidden. The dorsal skin flap is elevated after incising the skin in middle of columella in inverted V shape thus giving good exposure of dorsum nasal pathology.

Here we report three different swellings of dorsum nose including a rarely encountered foreign body lying in dorsal subcutaneous tissue being removed by external rhinoplasty approach.

CASE REPORTS

All these patients presented in our Department of Otorhinolaryngology with external nasal swelling for variable period.

Patient 1: A 25-year male presented with swelling over nose for more than 5 years duration. Swelling was 4x 3x 3 cm in size. It was red and black colored subcutaneous swelling involving the skin of dorsum nose extending from tip to 4 cm above and 1.5 cm laterally on both sides. There was no history of purulent discharge or bleeding from site. There was no history of trauma nose, no history of nasal obstruction. Multiple nodular thickening could be both seen and palpated over the swelling. Anterior rhinoscopy and postnasal examination were normal. FNAC revealed benign enlargement of sebaceous glands. Diagnosis of rhinophyma was made. External rhinoplasty revealed same multiple nodular glands like structures with fibrosis, around 2X1 cm skin was found to be involved which had to be shaved and sutures applied.

Patient 2: A 12-year-old male presented with swelling over nose for 3 years, progressively increasing. The swelling was multinodular 5X4X3 cm subcutaneous swelling on left dorsal nose, well circumscribed, mobile, non tender, firm, not involving the skin. Initially the size of peanut when noticed 3 years back and increasing in size since then to present size (Fig. 2). No history of

Fig 1: Clinical photograph of patient showing Rhinophyma involving nasal dorsum and tip.

Fig 2: Clinical photograph of patient showing Dermoid cyst involving left nasal dorsum.

discharge/ bleeding from the swelling. Swelling was not associated with pain/ trauma. There was no history of nasal obstruction/ bleeding from nose. Fine needle aspiration suggested diagnosis of dermoid cyst. Computed tomography including both axial and coronal cuts was done which does not reveal any intracranial extension. The swelling was removed en masse by an external rhinoplasty approach under a general anaesthesia (Fig. 3). There was no definitive attachment to the underlying bone or cartilage.

Patient 3: A 25-year-old male presented with swelling and deformity of nasal dorsum following a road traffic accident six months back. There was scar over dorsum of nose with history of clean lacerated wound being sutured. The swelling was 4 cm long and 0.5 cm to 2 cm in width from up to below. It was firm to hard in consistency. The X rays could not lead to any diagnosis with suspicion of some fractured bone chip the case was taken up for surgery. On exposure by external rhinoplasty approach 3 glass pieces were found entrapped in soft tissue (Fig.4) on removal of which swelling and deformity disappeared completely.

DISCUSSION

Rhinophyma or potato tumor is a slow growing benign tumor due to hypertrophy of the sebaceous glands of the tip of nose often seen in cases of long standing acne rosacea. It presents as a pink, lobulated mass over the nose with superficial vascular dilation. Patients seek advice because of unsightly appearance of the tumor. Earlier treatment given was pairing down the bulk of tumor and the area left to re-epithelialize. Sometimes, tumor is completely excised and the raw area skin grafted. In the external rhinoplasty approach most of the dorsum skin is saved, giving early healing without visible suture scars thus achieving better cosmetic result.

Nasal dermoid sinus cysts are the most frequently encountered midline congenital lesions of the nose. However differential diagnosis such as gliomas or encephoceles must be considered. Midline nasal dermoids typically present as sinus tract, mass or both located at any point from the nasal root to the nasal tip. The external location provides no indication of the depth of the lesion. Nasal dermoids most commonly terminate as a single

subcutaneous fistulous tract, but in approximately 45% of cases reported, the tract penetrates deeply to involve nasoseptal, skull base, or anterior intracranial structures. The generally accepted theory³ was based on initial work by Grunwald in 1910, and was classically described by Pratt in 1965 as the "prenasal space" theory. During early embryologic development, the nose consists of three layers- ectoderm (skin), mesoderm (frontal and nasal bone) and deep layer of cartilage. Due to nonfusion of frontal and nasal bones dura extends through the foramen cecum and through the prenasal space to come into contact with the skin. Usually the dural projection loses its cutaneous connection and retracts through the foramen cecum, followed by closure of the latter. If this process of obliteration is incomplete, dermal connections in the form of a sinus tract and / or a cyst may be found at any level of the pathway. The insidious growth of nasal dermoids, the risk of meningitis and the cosmetic deformity are indications for surgical extirpation. Various approaches used are vertical dorsal rhinotomy, lateral rhinotomy, transverse rhinotomy and external rhinoplasty.

The Dermoid cyst operated upon by us was of rare variety as it lay along the lateral side of the nose instead of in the midline along the dorsum of the nose. Also it moved freely in all directions showing absence of attachment to periosteum. Crawford⁴ (1952) reported similar two cases. It is probable that the dermoids on the lateral side of the nose arise from the closure point at the junction of the fissure between the nasal processes of the superior maxilla and the frontal bone.

Varghese⁵ (1992) reported a rare case of fibromatosis on the dorsum of the nose, which was excised with wide margins and with no cosmetic defect enabled by external rhinoplasty approach. Denoyelle⁶ (1997) used three different surgical approaches (external rhinoplasty approach with medial crura section, a direct median approach and a paracanthal approach) on thirty-six children and said that the external rhinoplasty approach provides a wide exposure and improves control for the osteotomies and for the excision of the tract all the way to the skull base reducing recurrence rate and giving good aesthetic results.

Fig 3: Intra-operative photograph of external rhinoplasty approach showing cyst removal intoto.

Fig 4: Intra-operative photograph of external rhinoplasty approach showing glass pieces embedded in nasal dorsum soft tissues.

Leila A. Mankarious⁷ (1998) excised nasal dermoids in 8 children external rhinoplasty approach and studied that removal of the dermoid can leave a tissue defect due to the splay of the upper lateral cartilages and nasal bones that affects projection of the nasal dorsum. The concomitant placement of costal cartilage in external rhinoplasty approach recreates the nasal dorsum and enhances the postoperative result. He also concluded that with this approach even dermoids with significant intracranial components could be excised readily; sinus tracts can be followed easily and removed in their entirety.

The case of foreign body lying inert without any sign of inflammation, infection or discharge is very rare in itself, no mention was found in literature searched. There was no instance of post-operative infection, bleeding, bruising or stenosis of the nasal vestibule in any of the cases.

The external rhinoplasty approach for swellings, cysts, benign tumors of soft tissue of nasal dorsum and in rare case of foreign body impaction as reported have various advantages¹.

- 1) Incision is hidden and least visible in form of scar.
- 2) Better exposure to whole of nasal dorsum.
- 3) Better healing and less chances of gaping wound.
- 4) Bimanual surgical dissection can be accomplished more efficiently.
- 5) Very good technique for demonstration and training of the residents.

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