Use of Drill in Rhinoplasty (A Case Report)

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Abstract

Here we present a case of open rhinoplasty where electric drill was used satisfactorily and successfully to correct the deformity of bony dorsum. This device has a great potential in rhinoplasty.

Electric drill has become an integral part of instruments used by an ENT surgeon. However, most of the ENT surgeons have restricted the use of drill in Otolaryngology only. The use of drill in rhinoplasty has not been practised by ENT/Plastic surgeons widely and most surgeons rely on osteotomes and rasps for correcting the bony deformities. However, if case selection is done properly, it is an excellent device to correct the bony deformities with high precision. The familiarity of an ENT surgeon with drill and the ability to control it precisely, provide a useful base for the use of drill by an ENT surgeon in Rhinoplasty. Goodman (1981) has mentioned about the use of drill in rhinoplasty. Halle (1914) used drill in intranasal operations.

Fig. 1.

Fig 1a

Fig 1b

Fig. 1c

Figure - 2

Fig. 2a

Case Report

Here we present a case of rhinoplastic correction with the help of a drill. A 35 year old lady who had sustained injury over the nose about 7 months back presented with the chief complaint of external nasal deformity with right nasal obstruction. The external examination revealed deformity mainly in the upper 1/3 (bony) part of the nose. The frontal processes of maxillae on both the sides were prominent resulting from new bone formation following injury, with splaying of both the nasal bones apart and a depression between the two bones in the mid-line filled up with fibrous tissue (open roof deformity) resembling a truncated cone deformity.

The medial parts of the nasal bones were rugged presumably due to injury followed by reparative process. There was apparent depression of the bridge of the nose (Figure-A, B, C).

Lower cartilaginous part was normal except minimal supratip deformity. She also had 'C' shaped septal deviation to the right side. Pre-operative photographs were taken (fig-1) and the patient was planned for septal correction and open rhinoplasty.

Firstly a classical SMR was done and the harvested part of the cartilage was kept in cefotaxime solution. The bony part of the septum was normal and did not need correction. Open rhinoplasty incision

Fig. 2b

Fig. 2c

(midcolumellar) was made avoiding the soft triangle and the nasal bone and frontal processes of maxilla exposed. Periosteum was elevated over the bones. The prominent bone was drilled away with 3 mm cutting burr under direct vision. After achieving symmetry on both the sides the open roof deformity was corrected by placing the cantilever cartilage (harvested from SMR) into it. Another piece of cartilage was put in the supratip region to correct the supratip deformity. After achieving satisfactory shape, paper strips were applied and POP cast applied over it. Fig-2A, B&C show Postoperative appearance.

Discussion

The rotating burr is known to Otolaryngologists for a long time and has largely replaced gouge & mallet (Goodman 1981). This transition occurred because of the fact that drill provided a much safer and precise way of removing bone than gouge and mallets. The same holds true for rhinoplasty also. With the help of drill one can precisely remove the additional deforming bony mass and sculpture the bony part, so as to make it aesthetically acceptable. An open rhinoplasty provides an excellent exposure of the bony dorsum and

one can see directly the deformed irregular parts and shape it precisely as desired.

An Aufricht retrator particularly with wide tip provides adequate protection to the overlying skin.

The other use of drill in rhinoplasty are shortening the length of the nose (by lowering the nasofrontal angle) and correction of wide dorsum (by thinning the bone laterally and removing excess bone in nasofrontal angle. It can also be used for sculpturing the bone graft taken from various places (Iliac crest etc.). Use of drill reduces the incidence of injury to the mucosa underneath the bone, which is almost invariably injured in osteotomies. One can also thin out the bone by drill before doing osteotomy in case of thick bone where primary osteotomy may be difficult. Overall an ENT surgeon should use his full potential of using drill in rhinoplasty which gives very good results in selected group of patients.

Acknowledgement

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References

1. Goodman WS (1981) . Rotating burr in rhinoplasty, *Archives of Otolaryngology*, 107, 436-438.
2. Halle J (1914): *Archives of Laryngology and Rhinology (Berlin)* 29 : 73, (Quoted by Scott-Brown)

Course News

A one day Functional Endoscopic Sinus Surgery Workshop (titled STAN FESS I) was conducted at the Government Stanley Hospital, Chennai on the 7th November, 1998. The teaching faculty in this course were Dr. Ravi Ramalingam and Prof. K. K. Ramalingam of the K. K. R. ENT Hospital and Research Institute, Chennai. The one day course consisted of cadaver dissection, live surgery of various Endoscopic Sinus Surgery procedures, lectures and video demonstrations of advanced techniques. The course was attended by nearly 175 delegates. The course was organised by Prof. G. Varadarajulu Professor and Head of the department of E.N.T. of Stanley Medical College, Chennai and the assistants of the department. A short book titled "A Hand Book on Endoscopic Sinus Surgery" authored by Dr. Ravi Ramalingam and Prof. K. K. Ramalingam was released and distributed to all the participants of the delegates.