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Hard Palate Perforation after Septoplasty

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Abstract
Introduction: *Deviated nasal septum, prevalent worldwide, is one of the most common cause of nasal obstruction. Although it is not commonly believed, however, adenoidal hyperplasia is an important etiological factor. Palatal perforation is one of the rarest complication post septoplasty. Adenoidal hypertrophy causes high arched palate which leads to thinning of palatal bone, which can be injured during septoplasty. The development of a palatal perforation following septoplasty is extremely rare.*
Case Report: *Two patients with palatal (oro-nasal) fistula following septoplasty are presented. Both had a high arched palate consequent to adenoidal hypertrophy during early childhood. However luckily the perforation healed conservatively and a surgical repair was not required.*
Conclusion: *Adenoids induced septal deviation in patients with high arched palate should be operated with utmost caution to avoid palatal perforation.*
Keywords: *septoplasty, palatal perforation, high arched palate.*

Introduction

Symptomatic deviated nasal septum is the most common indication of septoplasty. Septoplasty is one of the commonest performed surgery worldwide by otorhinolaryngologists of all hues which is novice to experts. Otolaryngologists and plastic surgeons have used numerous techniques which have very good success rate. However, several complications have been reported in literature following septoplasty. Among these complications, the frequently observed ones are bleeding, adhesions, septal hematoma as well as perforation, retraction of columella, depressed nasal bridge and sometimes nasal tip.[1,2] Rare complications include blindness due to retinal artery occlusion and third nerve paralysis.[3] Single case of soft palate perforation following septoplasty in an undiagnosed case of submucous cleft palate is also on the record.[4] However, hard palate perforation is extremely rare.[2] Authors report a rare case of perforation of hard palate after septoplasty.

Case 1

A 17 year old boy presented with symptomatic deviated nasal septum. He underwent septoplasty

under local anaesthesia. During the surgery itself it was realized that the hard palate was perforated. Repair was attempted and the perforation closed primarily with vicryl, however, the sutures did not hold postoperatively and the perforation persisted (Fig 1).

The perforation was approximately one centimeter in diameter. On close examination of the oral cavity, it was observed that the patient had high arched palate. Patient had complained of hyper nasal voice and nasal regurgitation of fluids. He was then sent to oromaxillary surgery department where he was given a palatal obturator for temporary relief from nasal regurgitation of fluids and hyper nasal voice. Palatal repair was planned three weeks post septoplasty, however in the mean time it healed by itself and the obturator was removed.

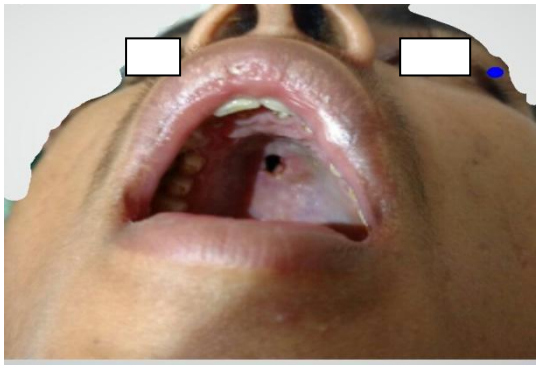

Fig. 1 Photograph of hard palate fistula immediately after the septal surgery

Case 2

A palatal perforation developed in an 18 year old male following septoplasty. However, it was detected at the time of surgery and prolene sutures were applied on the palate and anterior nasal packing was done with merocele. The patient was put on a liquid diet especially with a straw for three days. Subsequently he was put on soft diet. The antiseptic oral rinse after every feed was ensured. This healed well and there was no perforation at the time of discharge.

Discussion

Following septoplasty, complications such as poor quality of sleep, difficulty in breathing, decreased oxygen concentration and toxic shock syndrome can be encountered. Other possible complications include haemorrhage, vestibulitis, haematoma, adhesions and septal cartilage perforation.[2,5,6] To reduce the incidence of complications after septoplasty, the methods used are transfixation suture to the septum and septal splinting.[6] Palatal perforation is an extremely rare complication and literature review revealed very few cases including a case of soft palate perforation consequent to undiagnosed submucous cleft palate.[4] Gokdemir et al. from Turkey reported palatal perforation in a 34 year old patient who had a high palatal vault.[7] Ersoy et al. reported soft palate perforation after nasal surgery who had an undiagnosed submucous cleft palate prior to septoplasty.[4] Tilaverdis et al. reported one case of perforation of hard palate which resulted following fracture of hard palate during septoplasty.[8] Whereas Balmor et al. reported a case of renal cell carcinoma undergoing bisphosphonate treatment, who developed sleep apnoea. Nasal examination revealed nasal polyps with history of recurrent bleeding. Polypectomy was done, however the patient developed hard palate perforation after the surgery. However it was adjudicated that the palatal perforation was due to bisphosphonate induced osteonecrosis.[9] Such cases don't require immediate attention as the vascularity of the site is compromised. In such cases, delaying closure of defects allows time for the surrounding tissue to regain vascularity and often results in a smaller final defect due to bony and soft tissue healing, which makes the final closure of the defect easier and also enhances the survival of the flap. However, bony defects are most likely to be larger than the soft tissue defects. The reasons for failure are either not closing the nasal mucosa or lack of vascularity or improper designing. The treatment options for the closure of an oronasal fistula are based on its size, duration, location, age of the patient, and experience of the surgeon.[10]

Adenoidal hypertrophy is a common problem of early childhood worldwide. Patients with

adenoidal hypertrophy present as nasal obstruction due to the closure of choanae by the adenoid tissue. At the same time high arched palate develops in these cases which lead on to septal buckling and deviation. When this deviation is corrected in later life, while removing the bony spur, there is chance of injury to hard palate and perforation, as was also observed in the above two cases. Hence the surgeon should be careful while operating as the hard palate is thinner because of its bowing or high arch and the septal spur is disproportionately larger. Both these cases were operated by trainee residents. It is proposed that septoplasty in cases of septal deviation due to adenoids should be operated by an experienced surgeon only. Further development of deviated septum is definite indication of adenoidectomy to avoid severe deviation and further complications. Further both these patients were males, however this number is too less to assign the cause to gender.

In conclusion, adenoids induced septal deviation should be operated with utmost caution and the palatal vault should always be assessed before, during and after surgery, to avoid this rare complication.

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