



CASE REPORT

Nasal vestibular stenosis after birth trauma during caesarean section[☆]

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KEYWORDS

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Complication

Summary *Introduction:* Iatrogenic trauma includes injury due to intubation, trauma during nasal examination, management of epistaxis or surgery of nose. As the maternal and child care is improving, the iatrogenic trauma during child birth is becoming very rare. We present a unique case that had nasal vestibular stenosis due to injury during caesarian section. As the treatment of vestibular stenosis is difficult, we reviewed the literature for the management of vestibular stenosis and present our surgical technique for managing this particular case. *Patient and surgical method:* A two and half year male child was brought to our department with complaint of left nostril obstruction since birth. The child had received multiple cut injuries on the face at the time of lower segment caesarian section of the mother at a peripheral hospital. This deformity was corrected by surgery and nasal stent. *Discussion:* We searched 'Pubmed' and 'Scopus' with no keywords limit and found only one case of iatrogenic nasal deformity due to birth trauma in English literature. The surgical correction of vestibular stenosis is very difficult due to small surgical field and high recurrence rate. There are number of techniques described in the literature for correction of vestibular stenosis. We reviewed them and compared our experience in managing this deformity. *Conclusion:* The very initial management in terms of proper suturing of flaps and nasal stents or referral to a specialist following nasal trauma can avoid this type of deformity. We concluded that the management of vestibular stenosis is very difficult and the result of surgery is influenced by not only the surgical technique but also by cooperation of the patient and family members.

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Introduction

Nose is one of the most important aesthetic unit of the face. However due to its projection, it is the most common anatomical structure of face to get injured. Nasal fractures and deviated nasal septum are common examples of trauma. Alar and

[☆] All the authors stated above have participated sufficiently in the conception and design of the work, in the analysis of the data and in writing the manuscript to take public responsibility for it.

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collumella generally escape injury due to their elasticity but sharp or lacerated injuries lead to disfigurement of the nose and disruption of normal physiology of respiration.

Trauma to nose can be due to birth, assault, fall, games, infections, burns or iatrogenic. Birth trauma is well known for deviated nasal septum and is due to disproportionate fetal head and vaginal canal. Iatrogenic trauma includes injury due to intubation, trauma during nasal examination, management of epistaxis or surgery of the nose. As the maternal and child care is improving, the iatrogenic trauma during child birth is becoming very rare. We have found (Pubmed and Scopus search with no keywords limit) only one case [1] of iatrogenic nasal deformity due to birth trauma in English literature. We present a unique case that had nasal vestibular stenosis due to injury during caesarian section. This is the first case to be reported with this mode of injury. As the treatment of vestibular stenosis is difficult, we reviewed the literature for the management of vestibular stenosis and present our surgical technique for managing this particular case.

Patient and surgical method

On 25 October 2007, a two and half year male child was brought to our department with complaint of left nostril obstruction since birth. The child had received multiple cut injuries on the face at the time of lower segment caesarian section of the mother at a peripheral hospital. The child did not have any surgical intervention and the wound was allowed to heal by secondary intention. On examination (Fig. 1), there were multiple scars on the face. One scar on the nose extended from the base of the collumella circumferentially and then



Fig. 1 Left vestibular stenosis and cut marks on the nose.

towards floor of the left nostril and left alar base. Another scar was extending downwards from the tip of the nose and meeting the first scar at collumellar base. There were multiple superficial scars, one on the dorsum of the nose and two on the forehead. The anterior hygroscopic test was almost absent on the left side. The left nostril had a very small opening and hence anterior rhinoscopic examination was not possible. The complete heamogram, biochemistry and X-ray paranasal sinus were found to be normal. A reconstructive surgery was planned under general anesthesia.

Surgical technique

Under general anesthesia, an incision was made on the first scar present on the collumellar base. The collumellar flap was raised upwards and then this incision was extended on the inner side of collumella on left side towards tip, like hemi-transfixion incision. Now the flap was raised further and we found that cartilage was not involved by scar tissue. The left nasal cavity was found normal. Multiple incisions were made on the inner side of the flap so as to lax this part of the flap. Now this flap was repositioned on the collumella and nostril so as to have normal patency of the left nostril. The collumellar end of the flap was sutured with vicryl 4-0 while inner side of the flap was reinforced by splint made of a suction catheter. The patient recovered well and discharged. After 6 weeks, patient reported with complete occlusion of the nostril (Fig. 2) and it was found that parents were not regular in keeping nasal stent in child.

A revision surgery was planned similar to 'Double crossplasty' [2] as patient had complete occlusion of the nostril. A custom made acrylic nasal splint was used postoperatively (Fig. 3). Child and parents were encouraged for use of nasal stent for 3 months. Patient was kept on regular follow up and at 10



Fig. 2 Complete left nostril stenosis after 6 weeks of surgery.

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