



LOOK BETTER, FEEL BETTER, BREATH BETTER: A CASE SERIES

Dental Science

Aravind R. J	Professor ,Department of Oral And Maxillofacial Surgery,Vivekanandha Dental College for Women,Thiruchengode,Tamil Nadu,India.
KavinThangavelu*	Professor And Head,Department of Oral And Maxillofacial Surgery,Vivekanandha Dental College for Women,Thiruchengode,Tamil Nadu,India.*Corresponding Author
NarendranRamesh	Reader,Department of Oral And Maxillofacial Surgery, Vivekanandha Dental College for Women,Thiruchengode,Tamil Nadu,India.
IndraKumarS.P	Senior Lecturer,Department of Oral And Maxillofacial Surgery,Vivekanandha Dental College for Women,Thiruchengode,Tamil Nadu,India.
Anantha Laxmi J	Tutor, Department of Oral And Maxillofacial Surgery, Vivekanandha Dental College for Women,Thiruchengode,Tamil Nadu,India.
Priyanka A	CRRI,Department of Oral And Maxillofacial Surgery, Vivekanandha Dental College for Women,Thiruchengode,Tamil Nadu,India.

ABSTRACT

Nasal trauma plays a major role in craniofacial trauma as nose is the prominent part of face. Though nasal injury is ignored at times but it is noticeable as it is aesthetically, functionally and structurally concerned. This article discusses about the nasal septum fracture in relation to mode of nasal injury, patient's compliance, treatment procedure and post-operative complication, also taking in account with the patients local, systemic and economical consideration.

KEYWORDS

nasal bone, nasal septum fracture, mode of injury, post- operative complication

INTRODUCTION:

Nose being one of the prominent structures of face is more exposed to trauma. Nasal fracture accounts for nearly 35% - 50% of all craniofacial fractures[1]. Incidence of nasal fracture is by road traffic accidents, sports injuries, fall or physical assaults. Nasal trauma can be isolated or may occur in combination with soft tissue or other facial bony injuries. Initially, the fracture may not be seriously recognized, but can later result in severe aesthetic or functional disability. It is mostly suspected by the presence of external deformity, palpation of bony fragments or bone instability. Fracture is associated with depression or displacement of nasal bone, paranasal edema, signs of epistaxis, nasal swelling, crepitus on palpation, symptoms of nasal obstruction and local pain. The purpose of manipulation of nasal fractures is to achieve aesthetic or functional correction of the nose, with a view to render cosmetic and functional results. The surgical treatment varies according to the mode of injury, associated type of fracture, anesthetic procedure involved and treatment plan. Nasal fracture can be manipulated either by open or closed reduction. Closed reduction is indicated in case of unilateral or bilateral fracture with minimal deviation (less than half the depth of nasal tip).

MATERIAL AND METHOD:

This Hospital-based study was conducted by the Department of Oral and Maxillofacial Surgery at Vivekananda Dental College for Women, Tamil Nadu. The records of the patient with nasal fracture was diagnosed and evaluated. Diagnosis was based on mode of injury, clinical history, physical examination and nasal bone radiography. Clinical assessment of patient included Inspection of the face, presence of swelling and deviation of nasal bone. Examination of nasal cavity was done with the help of facial CT for septal hematoma, bone fractures and location of epistaxis. Moreover, the dorsum of nose is palpated to detect any signs of crepitation. All the positive findings were carefully documented and subjected for further analysis.

CASE REPORT 1

A 46-year-old Indian female reported with complaint of pain in the nose for the past 1 month. On elaborating history patient had a slip fall at home (quarrel). After which there was an episode of loss of consciousness and nasal bleeding. Presence of facial asymmetry is seen due to swelling of nose. Tenderness and deviation noted over the nasal bone. No history of vomiting, seizures, otorrhea or rhinorrhea, no septal hematoma present. CT brain and chest radiograph were taken to rule out head injury, wounds or other medical emergencies.



FIGURE 1: Pre-Operative image showing fractured nasal bone.

CT facial bone showed bilateral nasal bone fracture and frontonasal process of maxilla

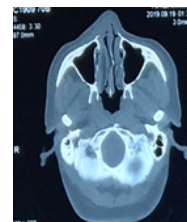


FIGURE 2: CT axial shows bilateral nasal bone fracture and frontonasal process of maxilla.

General anesthesia given under oro-tracheal intubation with adequate throat pack. Standard painting and draping done. Using periosteal elevator, ash septal forceps the close reduction of the fracture was done. Nostril was packed with betadine and adrenaline soaked gauze, hematoma was achieved. T-plaster placed over the forehead and bridge of nose. Patient was extubated uneventfully and shifted to post -OP ICU. Patient was kept on a regular follow up. Post-operative complication encountered was nasal bleeding and Saddle nose.

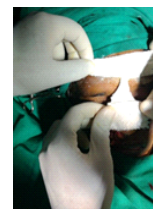


FIGURE 3: Placement of T-PLASTER**CASE REPORT 2**

A 49-year-old Indian male reported with complaint of pain over the middle third of face. On elaborating history patient had road traffic accident. After which there was nasal bleeding. Presence of facial asymmetry is seen due to swelling of nose. Tenderness and deviation noted over the nasal bone. No episode of loss of consciousness, history of vomiting, seizures, otorrhea or rhinorrhea. No septal hematoma present. CT brain and chest radiograph were taken to rule out head injury, wounds or other medical emergencies.

**FIGURE 4: Pre-Operative image showing fractured nasal bone.**

CT facial bone showed bilateral nasal bone fracture. General anesthesia given under oro-tracheal intubation with adequate throat pack. Standard painting and draping done. Using periosteal elevator, nasal septal forceps the close reduction of the fracture was done. Nostril was packed with betadine and adrenaline soaked gauze, hematoma was achieved. T-plaster placed over the forehead and bridge of nose. Patient was extubated uneventfully and shifted to post-OPICU. Patient was kept on a regular follow up. On the consecutive follow up patient encountered temporary hyposmia.

**FIGURE 5: Placement of T-PLASTER****CASE REPORT 3**

A 27-year-old Indian male reported with complaint of pain and bleeding from nostril. On elaborating history patient had slip fall from ladder at his workstation. After which there was nasal bleeding. Presence of facial asymmetry is seen due to swelling of nose. Tenderness and deviation noted over the nasal bone. No episode of loss of consciousness, history of vomiting, seizures, otorrhea or rhinorrhea. No septal hematoma present. CT brain and chest radiograph were taken to rule out head injury, wounds or other medical emergencies.

**FIGURE 6: Palpation of nasal region to check tenderness**

CT facial bone showed bilateral nasal bone fracture. General anesthesia given under oro-tracheal intubation with adequate throat pack. Standard painting and draping done. Using periosteal elevator, nasal septal forceps the close reduction of the fracture was done. Nostril was packed with betadine and adrenaline soaked gauze, hematoma was achieved. T-plaster placed over the forehead and bridge of nose.

Patient was extubated uneventfully and shifted to post-OPICU. Patient was kept on a regular follow up. Post operatively patient encountered nasal air way obstruction and temporary hyposmia

DISCUSSION

Nose being a most noticeable part of face and plays a major role in distinguishing the individuals. In face, as nose is protruding structure it is more susceptible to get injured. In account even a small change in the nose is noticeable as it affects the esthetics of face. Further more, the modernizing lifestyle has increased the trauma to nasal region. Although most nasal fractures are treated with closed reduction considering the esthetics of the patient, there is always a difference in opinion of treatment morality according to mode of injury, associated fracture, patient complaints and patient preference. Success rate of simple non commuted fracture is 70-90%, out of which 9-17% of the individual only require reoperation (septorhinoplasty)^{[2][3]}. According to Dong et al, one day nasal packing group had good clinical outcome and decreased post operative discomfort when compared with 3 and 4 days packing groups^[4]. Closed reduction can be done under local anesthesia 3 days after trauma which showed decreased post operative pain and nasal bleed after manipulation. This was also considered to be safe and effective in terms of function, esthetic and expense. Success rate can be further improved if the surgery is performed two weeks after initial injury^[5]. Open reduction done when bone injury is complex and where fixation is required. Fixation in such cases has to be done with at most care or it may lead to ongoing nasal breathing problem to avoid such complication, greater exposure is needed for better visualization. Endoscopic-assisted approach in open reduction provides an acceptable exposure of fracture with minimal access^[7]. Upcoming trend involves minimal invasive rhinoplasty with 3D imaging as it includes no incision, decrease post operative swelling and short recovery by Dr. Dutton.

CONCLUSION

According to the current case series showed good post clinical outcome while having a significant of minor level post operative distress, good esthetics and functionally effective.

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