
CASE REPORT

Firearm Injury to the face with bullet lodged in the nose

AZHAR HAMEED, SAJID IQBAL SHEIKH, MOHIBULLAH MUSHWANI

SUMMARY

In all firearm injuries, treatment should be individualized as there is no set protocol for head and neck firearm injuries. Five main steps of management should be observed, securing airway, controlling hemorrhage, identifying other injuries, removal of F.B when necessary and repair of the facial injury. A Patient came to ENT outdoor with complaint of firearm injury on face with nasal pain and obstruction. Entry wound observed on right zygomatic arch 1.5 cm below right lateral canthus which was almost healed. X-Ray PNS and nasopharynx lateral view showed a radio opaque foreign body in right nasal cavity at level of middle meatus. We planned examination under general anesthesia and proceed. Foreign body was approached intranasally and encountered at level of middle meatus and removed. F.B was actually a bullet sized 1.4 * 1 cm.

INTRODUCTION

Firearm injuries have been increasing worldwide in last few decades¹. Injuries in the head and neck are not rare and has high rate of morbidity and mortality. The incidence on the nasal pyramid injury is not rare. On the other hand, spontaneous migration of foreign bodies, either metallic or not, through tissues is described and nasal fossa can be part of their course or even their final stop². Patients who sustain firearm injuries to head and neck region face heavy tissue damage and eventually life threatening conditions. Knowledge of path of the bullet and how it terminates is critical for assessment and optimal management of patients with firearm wounds. The extent of tissue damage depends on internal lacerations, the compression of the tissues and the temporary cavitation along the projectile path³. The severity of the bullet wound also depends on the extent of involvement of the viscerocranium and is characterized by an irregular path and localized destruction of bones with associated neurological effects. The diagnostic aspect of firearm wounds comprises of detailed history, examination, comprehensive X-rays and CT scan⁴ for a complete picture. In all gunshot wounds, treatment should be individualized as there is no set protocol for head and neck firearm injuries. The operative treatment depends upon the injury and removal of a possible projectile. Five main steps⁵ of management should be observed, securing airway, controlling hemorrhage, identifying other injuries, removal of F.B when necessary and repair of the facial injury.

*Department of ENT, King Edward Medical University
Lahore*

*Correspondence to Prof. Azhar Hameed, Head of ENT
Department*



Fig 1: Wound of entry with stitch marks before surgery

CASE REPORT

We present a case of patient 18 years / male labourer by profession from Nistar colony Lahore presented with complaint of nasal obstruction in ENT-outdoor. Twenty five days ago he was injured by a stray bullet while sleeping on roof. Patient developed pain and bleeding from nose and was taken to a tertiary care Hospital immediately where they controlled bleeding and referred Patient to Mayo Hospital for CT- Scan and further management. Patient left treatment for three weeks and came to ENT outdoor when he developed complaints of nasal pain and obstruction. Entry wound observed on right side zygomatic arch 1.5 cm below right lateral canthus which was almost healed. X-Ray PNS and nasopharynx lateral view showed a radio opaque foreign body in right nasal cavity at level of middle meatus. Radiological findings show bullet traveled a long distance from wound of entry, traversed right maxillary sinus and lodged at level of right middle

turbinate. Patient also got head injury in RTA two months ago admitted in a tertiary care hospital where he remained unconscious for three days and discharged after a week without any worse outcome. We did neurological examination and found normal. We planned examination under general anesthesia and proceed. Foreign body was approached intranasally and encountered at level of middle meatus and removed through Luc's forceps. F.B was actually a bullet sized 1.4 * 1 cm. Lateral wall of nasal septum found injured without any perforation. Epistaxis controlled by anterior nasal packing. Pack removed after 48 hours post operatively without any active bleeding or CSF rhinorrhea. No adhesion or crust formation observed post operatively. Wound of entry healed well and no deformity or neurological deficit observed. Patient discharged on third post-operative day without any complication.



Fig. 2 :Radio opaque foreign body in nasal cavity . Arrow shows tract of projectile



Fig 3: Bullet after surgical removal

DISCUSSION

It is important for trauma surgeons to understand the basic principles of terminal gunshot ballistics and the study of the projectiles effect on striking soft tissue e.g., the higher the velocity, more will be the likelihood of extensive damage. Bullet wounds, in contrast to wounds caused by blow or impact to the viscerocranium are characterized by an irregular path⁶, entry and exit wounds as well as localized demolition of bones with the associated clinical pathologies .The wounding capability of missiles is produced by the tremendous energy absorbed by the tissues. As a result of this energy transfer, cavitation⁷ and damage due to secondary projectiles can occur and extensive removal of debris may be required in such cases. Diagnosis of firearm injuries includes comprehensive X-rays of the areas involved which reveal radio opaque bullets or pellets. Emergency CT scan demonstrates mechanism of the injury. The management of firearm injury includes rapid examination of vitals as well as assessment of wounds, and the most severe wounds should be handled first⁸. Primary survey can also be done according to Glasgow coma scale. Primary survey

should be followed by initial management in which control of hemorrhage, adequate fluid replacement, and the maintenance of a secure airway are of prime importance⁹. In shotgun injuries of the face, extensive and immediate primary repairs are frequently contra indicated, and delayed wound closures may not only decrease the morbidity but also facilitate reconstruction of the resulting defect. Management of massive and extensive injury to the head and neck often requires a team work, and to make the things easy and treatable, a good knowledge of firearm injuries and their nature is essential. Good diagnostic skills, keen observance and knowledge of appropriate initial treatment is all that can reduce morbidity as well as mortality in firearm injuries.

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