

MANAGEMENT OF PENETRATING INJURY TO THE ANGLE OF MANDIBLE REGION CAUSED BY AIRGUN

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Abstract:

Penetrating injuries to the maxillofacial region are life-threatening and deserves emergency management under detailed evaluation of the site. Early diagnostic workup to localize the site of the pellet and early exploration of maxillofacial region is important.

Keywords: Penetrating injuries, pellet injury, angle of mandible, maxillofacial region.

Introduction

Penetrating injuries to the maxillofacial region carries considerable risk for significant morbidity and mortality, and most of these injuries are wounds caused by firearms. These injuries need emergency treatment. Early diagnostic workup to localize the site of the pellet and early exploration of maxillofacial region is important. The non powder firearms use air pressure to propel the pellet.¹

Case:

The trauma occurred to a 52-year-old male patient, who was cleaning his Airgun at his home. The gun was fired and the pellet hit with the iron door and came back after colliding with the metal door and entered under the patient's ear lobule. The patient did not lose consciousness and brought by his family to the local hospital where the bleeding was controlled with pressure. The patient's only symptom was mild pain over lower jaw and peri-auricular region. The next day patient reported to the clinic. There was no history of difficulty in breathing, change in voice, or swelling over the neck. Mild diffuse swelling was present over the left angle of mandible region (figure – 1). There was a 0.5cm lacerated wound present just below the lobule of the left ear (Figure -2). There was no active bleed at the time of examination. No foreign body was visible or palpable. An X-ray of the lower jaw region showed a radio-opaque foreign body in the left side of posterior ramus region suggestive of a pellet (Figure 3).

The wound was explored under general anaesthesia using C-arm. Ongoing medial to the rami of mandible, the pellet was identified within the medial pterygoid muscle. The

pellet was carefully removed (Figure -4). Care was taken to avoid the injury to the facial nerve and its branches. The bleed was controlled with local pressure. The postoperative period was uneventful, and the patient is asymptomatic in his follow-up visits.



Figure -1 – Diffuse swelling over left angle of mandible region



Figure -2 – Small lacerated wound just below the lobule of left ear



Figure -3 - Radio-opaque foreign body in the left side of Ramus region suggestive of a pellet



Figure – 4 – The Pellet removed after surgery

Discussion:

Airguns are lethal weapons and capable of causing life threatening injuries. Around 250 BC Ktebias II, first used compressed air to propel a projectile. The modern high-powered rifles can propel a pellet approximately 1100ft/s.²

Penetrating maxillofacial and neck injuries can present a difficult diagnostic and therapeutic dilemma. Their evaluation and management is challenging. The airway and cardiocerebral perfusion is most important step during managing these injuries. After that detailed evaluation of the site and severity of the wound needs to be done.³ Studies suggestive of immediate exploration of the site in active bleeding conditions.⁴ Preoperative plain radiographs, CT scans, and MRI scans are helpful in evaluation of the nature and site of injury and provide information about any associated complications and retained foreign bodies.⁵

In our case plain radiograph and C-arm helps in localizing the pellet and planning our surgical approach. This minimizes the bleeding and excessive exploration of the surgical site. We suggest the early diagnostic workup to localize the site of the pellet

and early exploration of maxillofacial region is important.

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