

Stab wound in the maxillofacial region: case report

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Abstract: Stab wounds in maxillofacial region are infrequent and rarely reported. The clinical and radiographic diagnosis is essential to know the risk of damage to the anatomical structures and the location of the foreign body, treatment includes removal, wound examination, suture, tetanus immunization and antibiotic prescription. This article presents the case of a lesion caused by a stabbing weapon. The lesion penetrated into the lateral left side of the face, cause injury to the internal maxillary artery leading to the decision to perform embolization before the removal of the foreign body under general anesthesia.

Introduction:

Stab wounds in the maxillofacial region secondary to knife injuries are relatively uncommon, those with retained knife blades are even less common due to the reflex of protecting the face in self-defense situations.

Injuries to the maxillofacial region may be associated with serious complication and can be potentially life threatening. In addition to possible facial bone fractures , important structures , including the facial nerve, parotid gland and parotid duct, may be affected, intracranial involvement may lead to more serious , life treating ,squeal , including

More-serious traumatic brain injury, hemorrhage, hematomas, pneumocephalus, cerebrospinal fluid leakage, or even late complications such as meningitis or cerebral abscess. Can be the result of the penetration of the foreign object in the skull.

Case report:

A 17 years old male patient was brought to oral and maxillofacial department of the hospital IBN SINA, Rabat, morocco presenting a facial stab wound localized on the lateral left side of his face (fig 1).After stabilization, clinical examination revealed a knife penetrating in the left lateral side of the face with no active hemorrhage and no communication The wound is confined to extra oral tissues and does not involve the intraoral structures. The patient was a Glasgow coma score 15, there was no facial paralysis.



Fig 1:pre-operative photo showing a facial stab wound

A radiological examination was conducted, including a facial X-ray that revealed the presence of a retained foreign body (a knife) penetrating the left side of the face (Fig. 2). This finding was further corroborated by an angioscan (Fig 3), which provided evidence of the foreign body (knife) situated anteriorly and inferiorly to the temporomandibular joint. The foreign body follows a

transverse trajectory, slightly inclined downward, traversing the masticatory space and the left pharyngeal mucosal space before reaching the retropharyngeal space in front of the clivus. This trajectory is associated with infiltration of the nasopharyngeal wall, leading to significant thickening and a notable reduction in airway lumen. Notably, the foreign body passes posterior to the left pterygoid process and approaches the contralateral process without causing bone lysis.

It remains distant from the common carotid artery, the internal carotid artery, the external carotid artery and the internal jugular veins without any fractures. No evidence of intracranial involvement was noted. An angiography revealed a lesion of the left internal maxillary artery, embolization was carried out before removal of the foreign body. The knife was removed from the entry wound using gentle, controlled force, without bleeding or complication following removal (fig 4)

Angiography identified a lesion of the left internal maxillary artery (Fig 4), leading to the decision to perform embolization before the removal of the foreign body under general anesthesia. The knife was successfully removed from the entry wound using gentle and controlled force, resulting in an uneventful procedure without bleeding or complications (Fig 5).



Fig 2: Facial X ray showing a knife penetrating the left side of the face



Fig 3: cervicofacial CT in axial section showing a knife traversing the masticatory space and the left pharyngeal mucosal

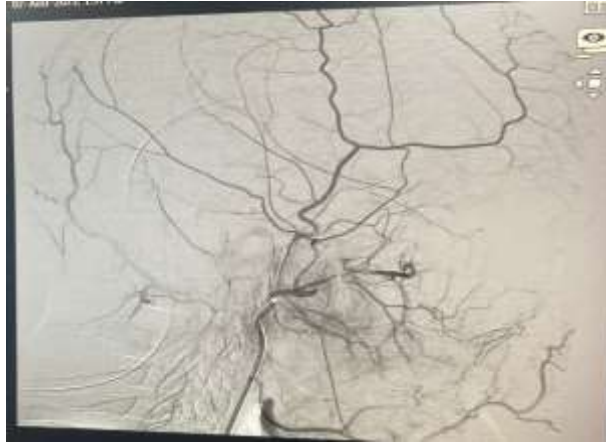


Fig 4: Angiography showing a lesion of the left internal maxillary artery



Fig 5: post-operative photo showing the knife removed

Discussion:

Retained foreign bodies following penetrating injury to the maxillofacial region by a knife blade are fairly uncommon and rarely reported. Initial emergency evaluation of a patient with penetrating knife injury to the maxillofacial region should be thorough and systematic, and often requires a multidisciplinary approach. Initial airway and hemodynamic stabilization of the patient should be performed, as well as assessment of damage to vital structures. Once the patient is stable, appropriate laboratory and radiographic evaluations may then be performed. Complete examination of the head and neck region should be performed, with care taken to explore any wounds that appear more than superficial. In any patient sustaining a retained knife wounds to the maxillofacial area, imaging is warranted. Radiographic examinations should include plain film radiographs in order to identify the location of the foreign body in relation to vital structures [1, 2, 3, 4], Computed tomography (CT) is usually the first line of imaging performed in cases of deeper penetrating injuries, particularly when attempting to detect metallic foreign bodies [2, 5]. Thorough knowledge of the vascular anatomy of the maxillofacial region is especially important. Many major vessels are present in the maxillofacial region, and damage to the vasculature should be initially suspected until proven otherwise. If a foreign body, such as a retained Knife blade, is visualized on plain films or CT, angiography may be indicated [1, 6] or a CT angiography if angiography is not available [4]. Even if significant bleeding is not present on initial examination, the foreign body may cause disruption of the vessel walls, causing development of pseudo aneurysms. If disrupted during foreign body removal, these may result in excessive, severe bleeding [3].

The surgeon should always be mindful of these possibilities, and angiography is of great value when planning to surgically

retrieve the foreign body. The surgeon may consider consulting interventional radiology and should always be mindful of these possibilities and discussing the necessity of selective embolization during retrieval of the object. Treatment may depend on the composition or type of foreign body, size, location of the object, and relationship to associated structures. The ideal method of removing the retained knife blade is careful extraction through the initial entrance wound, in a controlled setting under general anesthesia [1, 2, 3, 7]. Thorough exploration of the wound after foreign body removal should then be performed with copious irrigation of the site. When indicated, tetanus prophylaxis and appropriate perioperative antibiotics should be administered.

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