

## An Unusual Case of Penetrating Upper Limb Injury

Gupta Gulzar<sup>1\*</sup>, Garg Ramneesh<sup>2</sup>, Shah Sheerin<sup>2</sup>

<sup>1</sup>Department of Neuro Surgery, Dayanand Medical College & Hospital, Ludhiana-141001, Punjab, India

<sup>2</sup>Department of Plastic & Reconstructive Surgery, Dayanand Medical College & Hospital, Ludhiana-141001, Punjab, India

### \*Corresponding Author:

Name: Gulzar Gupta

Email: [ramneeshgarg@yahoo.com](mailto:ramneeshgarg@yahoo.com)

**Abstract:** We present a case of low velocity penetrating trauma in which the iron grill used for fencing the house pierced into the arm of patient when he was chasing a thief. After the requisite investigations patient was shifted to the operation theatre. Under general anesthesia, the foreign body was removed with gentle manipulation. Post operatively patient had mild cellulitis at the injury site, which settled in 5 days under antibiotic cover and sutures were removed on 10<sup>th</sup> postoperative day.

**Keywords:** Penetrating injury, Upper limb trauma, Iron grill trauma, Forearm penetrating injury.

### INTRODUCTION

Penetrating trauma is an injury that occurs when an object pierces the skin and enters a tissue of the body, creating an open wound. The penetrating object may remain in the tissues, come back out the way it entered, or pass through the tissues and exit from another area [1].

Penetrating trauma can be caused by a foreign object or by fragments of a broken bone, usually occurring in violent crime or armed combat [2]. It is penetrating trauma is common in military conflict or urban trauma centers with most injuries in the femoral and popliteal vessels of the lower extremity [3].

Assessments of penetrating injuries are done by X-rays, CT scans [4] and treatment may involve surgery in order to repair the damaged structures or to remove foreign objects [5].

We present an interesting case in which the iron grill used for fencing the house pierced into the arm of patient when he was chasing a thief.

### CASE REPORT

A 35-year-old male presented to the casualty of our hospital with pain and bleeding from the left arm. There was an iron grill that was penetrating through and through his arm. He was chasing a thief who had entered his house, when he accidentally jumped on the sharp tip of the iron grill. His hand got stuck in the grill and the grill had to be cut from the base to free his arm. The grill entered from anterolateral aspect just below

the cubital fossa and pierced out from medial aspect approximately 10 cm below the medial condyle (Fig. 1).



Fig. 1:

There was difficulty in elbow flexion and extension. Hand movements were normal. There was no peripheral sensory or motor deficit. Peripheral pulses were well palpable in the involved hand. X-ray of the involved part was done (Fig 2) to know the interior of the iron grill. No attempt was made in the emergency to remove this foreign body. After the requisite

investigations patient was shifted to the operation theatre.



Fig-2:

In the theatre, under general anesthesia, the foreign body was removed with gentle manipulation. The wound was thoroughly cleaned and irrigated with normal saline. All the important neurovascular structures and muscle groups were checked and they were found to be normal. The iron grill had penetrated through the subcutaneous plane only without damaging any deeper structures. Both the entry and exit wounds were closed in two layers. The total operation time was one hour.

Post operatively patient had mild cellulitis at the injury site, which settled in 5 days under antibiotic cover. Sutures were removed on 10<sup>th</sup> postoperative day.

## DISCUSSION

Penetrating injuries are commonly caused by gunshots and stabbings. It may involve any body part though the commonly involved body parts are chest and abdomen. It may be serious as it damages internal organs presenting a risk of shock and infection. Severity depends on the body parts involved, characteristics of penetrating object, and amount of energy transmitted to the tissue. As often the damage is internal and not visible, its assessment becomes difficult [5, 6]. Serial physical examination is reliable in detecting significant injuries after penetrating trauma [7]. The injuries may be life-threatening and patient may need emergent operative intervention [8].

Low-velocity items usually damage only to the area that is directly contacted by the object [9]. Due to

injury, it results in the formation of a cavity in the injured tissue called as permanent cavitation [10].

Ours was a case of low velocity trauma and the injury caused was localized to the area of contact, which in this case was sub cutaneous plane. Iron grill penetrating through and through the limb without causing any neurovascular injury is a rarity. It is important to highlight that no attempt should be made to remove a foreign body in the emergency itself. Majority of the times the penetrating object causes a tamponade effect and its removal may cause massive reflex bleeding.

## CONCLUSION

We recommend that all cases of penetrating injury be assessed in operation theatre only and it is not uncommon to have localized injury only.

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