

Isolated Fatal Accidental Femoral Artery Injury: A Case Report

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Abstract

The authors discuss a case report of isolated femoral artery injury caused by blunt trauma with dissection of the femoral artery. A 30 year old man was received dead at the emergency ward after having sustained injury by falling in a drain while riding a bicycle carrying a beer bottle under his trouser which got crushed. The broken pieces of glass pierced his right inguinal area injuring right femoral artery. He bled profusely and was immediately shifted to SCB MCH Cuttack for further management. But he succumbed enroute and was received dead. The dead body was sent to Central morgue for post mortem examination, which revealed an isolated femoral artery injury.

Keywords: Bottle; Femoral Artery; Blunt Trauma; Inguinal Region.

Case history

A 30 year old man was going on a bicycle and accidentally injured by broken pieces of beer bottle on the right inguinal region. He was carrying a bottle of beer in the right pocket of his trouser, while riding the bicycle and fell down on the roadside drain as a result of which the beer bottle got crushed, when he was giving passes to a tractor coming from the opposite side. The shards of glass from the beer bottle injured his right inguinal region resulting in profuse bleeding. He was immediately shifted to SCB MCH Cuttack where he was received dead.

Autopsy findings

The autopsy was conducted over the dead body of 30 year old man with proper Police Requisition, Dead Body Challan and Inquest Report.

The dead body was of average built, conjunctiva pale, nail beds pale, faint post- mortem lividity on back and natural orifices were intact and free of any discharge. No signs of decomposition were present.

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Broken pieces of glass of beer bottle were found over the right inguinal region and under the trousers. All the garments were intact and soaked with blood.

A cut laceration of size 6 cm x 3 cm x muscle deep was present over the right inguinal region in an oblique manner. Small sharp broken fragments of glass were found in and around the wound. After careful exploration of the wound, the femoral artery was found to be lacerated. The margins of the wound were contused. All other internal organs were intact and pale. The cause of death was due to haemorrhage and shock as a result of the sustained injury.

Discussion

Femoral artery blunt trauma is a rare event and Children are more susceptible as compared to adults[1]. The commonest mechanism of injury is penetration followed by severe blunt trauma, polytrauma, and bone fracture. The most commonly injured vessels are femoral followed by brachial [2]. Trauma can be caused by firearm, cutting weapon or femoral fracture. Femoral artery trauma corresponds to one third of all arterial traumas. Vascular injuries to groin are common and life threatening [3]. Penetrating firearm injuries are primary cause of trauma to femoral artery [4]. Wounds produced by glass may cause difficulties in interpretation in the absence of information concerning the circumstances of injury. This may mimic laceration, incised or even stab wound. The

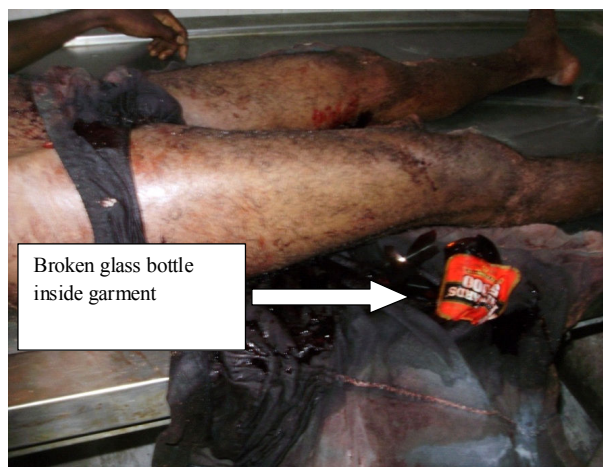


Fig. 1: Broken glass bottle inside garment.

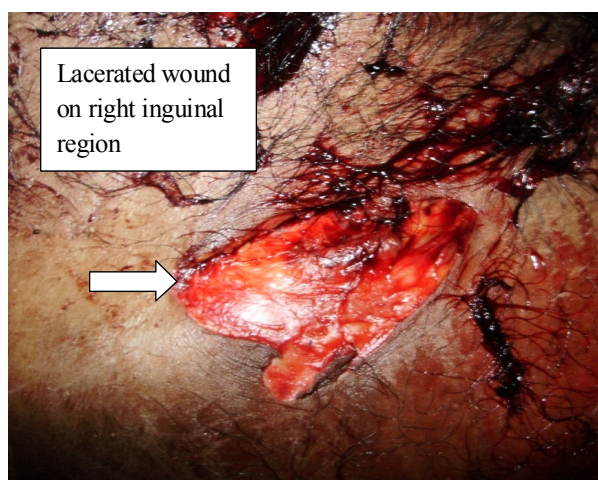


Fig. 2: Obliquely placed wound on right inguinal region

usual wound by a glass is an obvious laceration. The glass wound laceration should be examined under hand lens so as to look for (a) slight bruising of the margin (b) side cut which is characteristic of wound caused by glass (c) search for glass flakes or particles [5].

Injury to femoral vessels due to blunt trauma has been reported by many authors[6,7]. Bicycle handle and scooter motor handle bar are the other common offending agents; causing injuries to femoral vessels. [8,9,10].

The common femoral artery is a superficial vessel between inguinal ligament and superior pubic ramus [8].

Two types of injuries are hypothesized

- i. A brutal deceleration with opposing force on vessels such as in high velocity driving trauma[11].

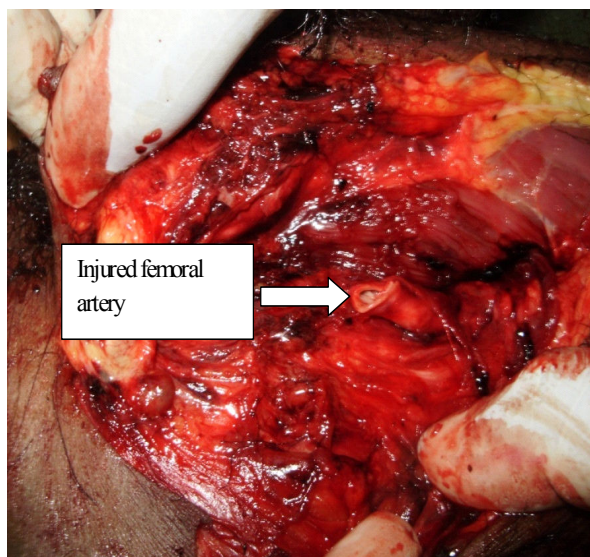


Fig.3: PHOTO showing femoral artery injury.

- ii. Direct forceful compression of the relatively immobile vessels on the pubic ramus (as in handle bar syndrome) [12].

Various types of arterial injuries are reported including incomplete and complete transection with pseudo aneurysm, A-V fistula, occlusion etc. [13]. Sometimes appropriate diagnosis is obtained after a latent asymptomatic period [11]. The clinical symptoms caused by arterial injury are absence of pulse, ischemia of limb, haemorrhage and their complications. According to Wolosker N et al mortality related to this type of trauma is rare and is always associated to injury of other organs[14]. In our case the injury to Right Common Femoral artery is the primary and the only cause of death due to haemorrhage and shock.

Arteriography is the gold standard for topographic diagnosis of blunt trauma [15.] The simplest and earliest clinical method of investigating possible femoral artery damage is a measurement of "ankle-brachial pressure index" which is associated with 98% sensitivity [16] and such feature is seldom reported. The principle of arterial reconstruction in blunt trauma is primarily resection of diseased segment and its primary repair when the defect is < 2cm and graft interposition in other cases.

Conclusion

Traumatic vascular injuries are rare. Femoral artery trauma if treated while the limb still maintains its vitality has a positive clinical outcome with high

rate of limb preservation. Immediate referral and treatment is needed to save life and complications and in this type of case meticulous autopsy help to solve the case in the court of law.

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