

# Bull Horn Injuries in Rural Area: A Case Series

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## Abstract

Bull gore injuries are among the most common accidents in rural India, where people make their living rearing the livestock. The most common site of injury in bull gore cases is the abdomen and perineal region. The reason for perineal involvement is its anatomical configuration. Injuries involving the perineal region pose a great challenge in management due to poorly understood anatomy and difficulty in accessing the injury site. We are here presenting different series of cases of bull gore injury in the rural setup in India. Management of bull gore injury is a challenge and surgeon needs to assess the injury and take a call on the type of management. Furthermore, a surgical repair of the injury is also difficult because of the complex anatomy and the less accessibility. So needs to be taken into consideration.

**Key words:** Axillary injury, Penetrating injuries, Perineal injury

## INTRODUCTION

Bull gore injuries are among the most common accidents in rural India, where people make their living rearing the livestock. The injuries thus sustained include the direct penetrating injuries caused by horns of the animal and blunt injuries sustained like chest and spine injuries, long bone fractures. A thorough head to toe examination is, therefore, essential in evaluating such patients. The most common site of injury in bull gore cases is the abdomen and perineal region. The reason for perineal involvement is its anatomical configuration. Injuries involving the perineal region pose a great challenge in the management due to poorly understood anatomy and difficulty in accessing the injury site. Perineal injuries are associated with delayed complications like anovaginal fistula, urethrorectal fistula, loss of sphincter function due to injury to the anal canal.

## CASE SERIES

### Case 1

A 65-year-old male came to the casualty with A/H/O injury to the chest by the bull gore early in the morning.

The patient was conscious oriented with pulse rate (PR)-80/min and blood pressure (BP)-110/80 mmHg and on examination he had laceration over the chest about 4 cm × 2 cm and surgical emphysema with crepitus on the right side of the chest and chest X-ray was done; there were rib fractures on the right side with surgical emphysema and pneumothorax on the same side. The patient was managed with intercostal drainage tube (ICDT) insertion on the right side and strapping for rib fracture. ICDT was removed after 6 the day and patient was discharged after 2 days.

### Case 2

A 35-year-old male came to casualty with A/H/O injury by bullhorn to the axillary region shown in Figure 1. While milking the cow has hit him with his horn. He presented with stab injury to the left axilla around about 2 inches deep in the axilla with no active bleeding, pulsations of the limb were normal, no vascular injury observed and the wound closed in layers with a corrugated drain. The patient was discharged after 5 days and followed up in the outpatient department wound healed well and sutures removed on 12 post-operative day.

### Case 3

A 55-year-old male presented to casualty with history of trauma by a bull, while he was putting a fodder early in the morning the bull has hit him he fell down and bull walked on him, followed by this he developed pain in abdomen and shown to a local practitioner at midnight came to our hospital casualty. On examination, pt was conscious oriented with PR-88/min, BP-120/80 mmHg, P/A- tender

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with guarding and BS present with no external injury, X-ray was taken which shown air under diaphragm signs of pneumoperitoneum, patient was investigated and explored, on exploration we found through and through transaction of jejunum 15 cm apart with mesenteric tear. Managed with through wash and end to end open resection anastomoses. On day 6, orally started and has been discharged on day 12.

#### Case 4

A 66-year-old male came to casualty with history of injury to the left iliac fossa by a bull horn with an external stab injury around about 6 cm × 2 cm shown in Figure 2. On examination, the patient was vitally stable with tenderness at the site of injury and no active bleeding. X-ray erect abdomen: WNL, ultrasound: As there was an external injury patient was explored and found a colonic sigmoid colon serosa tear through wash was given and both the wound closed. On the 6<sup>th</sup> post-operative day patient had leak from the suture site and the drain site waited for 2 days and patient was re-explored found that there was a perforation of sigmoid colon at the site of serosa tear,



Figure 1: Injury by bull horn to the axillary region



Figure 2: injury to the left iliac fossa by a bull horn

perforation closed sigmoid double barrel colostomy done and both the wound closed.

Orally started after 48 h. Patient has been discharged after 14 post-operative day.

#### Case 5

A 38-year-old female admitted to OBGY department with h/o cow horn injury to the perineal region with perineal tear, involving external genitalia and the anal region. On examination, patient was conscious oriented with PR-100/min and BP of 110/80 mmHg, with avulsion injury to the vaginal region. The patient was immediately rushed to operation theater for examination under anesthesia and further management. Through and through vaginal injury was present through wash given and reconstruction of vaginal injury done with perianal area reconstruction patient has to undergo exploratory laparotomy with transverse loop colostomy. The patient tolerated the procedure well and had been discharged 10 post-operative day with a functioning colostomy and the healthy perineal wound.

## DISCUSSION

In India, bull gore injuries are frequently observed in the rural setup were frequently people come in contact with these animals. The horn of bull is long, curved directed forward with smooth tapering ends that produce lacerations and can also penetrate the body cavities.<sup>1,2</sup>

But bull horn injuries of the vulva and the vagina are rare, as the perineum is a highly protected region due to the reflex adduction of the thigh. But the rich vascular area may be easily damaged.<sup>3</sup> Goring is taken when the bullhorn penetrates deeply in the muscles as well as body cavities.<sup>4</sup> Goring is also described as a single injury which includes a mix of lacerated wound, contusion and infection by many researchers. Thus, wounds produced due to bull horn impact vary from contusions, lacerations, and penetrating wounds involving internal organs to fractures.<sup>4</sup>

The patterns of injuries sustained by the victim vary depending on the height of the victim, the height of the bull and position of the animal and the victim at the time of the attack by the bull. The injuries occur a more common on the abdomen and perineum.<sup>1,2,5,6</sup> In the abdomen, the horn first enters the skin and subcutaneous tissues and later muscles and further if the violence is more, the peritoneum is punctured with the involvement of viscera with tear.<sup>2</sup>

As the head of bull and the victim's abdomen is at the same level, this part of the body is most exposed to the attack. Although the surface area of abdomen is same as

that of the chest, the abdomen suffers more commonly injury with more severity than any other site. This appears due to lack of bony shield over the abdomen permitting the horn to hook to engage and penetrate.<sup>5</sup> These injuries can be in the form of perforations of abdominal wall, and internally hemorrhages and perforations involving mesentery and bowels.<sup>1,7</sup> Visceral injuries involving spleen and more frequently liver being situated on right region of the body are commonly encountered.

Many times impact by the bull or other cattle involves the thoracic region of the body. Atri and Mehdiratta<sup>8</sup> in an analysis of 154 civilian chest injuries reported six cases from bullhorns with three cases of right and left side each constituting about 4%. According to other researchers and the present study chest injuries are in the form of multiple rib fractures and penetrating injuries involving lungs. Involvement of extremities is an uncommon finding in such an impact by bull.

## CONCLUSION

The anatomy of the perineal region is complex, and visualization and access to various structures in the region are difficult. Hence, the repair of injury in the area needs a complete knowledge about the anatomy of the region and expert surgical skills. Usually, these injuries are associated with injury to abdominal and urological structures. In females, the anatomy of the perineum is further complicated

by the presence of the uterus, vagina, and the various supporting ligaments. Most of the time when an injury is missed or when a patient undergoes primary repair the patients end up coming back to the hospital with complications like anovaginal fistula and urethrorectal fistula. Thus, causing more morbidity to the patient in terms of physical, mental, social and economic sufferings.

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