Original Research Paper

Volume - 10 | Issue - 11 | November - 2020 | PRINT ISSN No. 2249 - 555X | DOI : 10.36106/ijar

General Surgery

A STUDY ON PRESENTATION AND OUTCOME OF BULL GORE INJURIES IN NORTH ANDHRA

Dr Akkidas Suvarchala	Assistant professor Andhra medical college : vishakapatnam
Dr Sudhakarrao Kovelakonda*	Post graduate;Andhra medical college : vishakapatnam *Corresponding Author
Dr Boddeda Lokesh Kalki	Post graduate;Andhra medical college : vishakapatnam
Dr Venkata Reshma Mounika Erle	Intern Andhra medical college : vishakapatnam

ABSTRACT **BACKGROUND** In rural background of north andhra raring the bulls for their agricultural works is common, so bull gore injuries or injury with bull horn is not an uncommon presentation. Bull is a docile animal which can be easily domesticated, aggressive bull for no reason may lead to bull gore injury. The close association between cows and oxen with rural humans may result in considerable amount of bull gore injuries commonly to rural men. The domestic bull gore injury presentation is significantly different from those produced by wild animals or bullfighting **MATERIAL AND METHOD:** A prospective study containing 20 cases with bull gore injuries presented to KGH casuality in a period of 2 years, from june 2017 to June 2019. **RESULTS** Most of the wounds are lacerations of size in between 4 to 18 cms, thorough washing and toilet of wound followed by repair in layers is sufficient for external lacerations. Most common site of injury was the abdomen, peritoneal breach with prolapsed bowel or omentum is also not uncommon. In penetrating injury due to a bull horn intestinal damage is rare, two cases with mesenteric tear and one case with perforation were treated by exploratory laparotomy and primary repair. Two cases presented with bizarre complicated laceration at perineum due to hooked bull horn, required a major plastic surgery manoeuvre to reconstruct anal sphincters and perineum. The mean hospital stay is 10 days with range of 6 to 16 days. Average delay of presentation is 10 hours **CONCLUSIONS** Most commonly middle aged agricultural workers who are associated with domestic animals are injured. Delayed presentation is common but outcome is highly satisfactory. The commonest site of injury was the abdomen, followed by perineum and other body parts. The pattern of injuries are significantly different from the bullfight injuries. As all the patients were agricultural workers, long term follow up is bit difficult.

KEYWORDS :

INTRODUCTION:

In rural background of North Andhra rearing the bulls for their agricultural works is common, so bull gore injuries is not an uncommon presentation. Bull is a docile animal which can be easily domesticated, aggressive bull can lead to bull gore injury for no reason. The close association between cows and oxen with rural humans may result in considerable amount of bull gore injuries commonly to rural men. The domestic bull gore injury presentation is significantly different from those produced by wild animals or bullfighting. A distinctive feature of domestic bull horn injuries is that of prolapse of bowel through the abdominal wall but rarely associated with injury to abdominal viscera.

MATERIALS AND METHODS

A prospective study containing 20 cases with bull gore injuries presented to KGH casualty in a period of 2 years, from June 2017 to June 2019.All the cases due to bull gore injury were included in this study. Injuries were grouped based on anatomical region

RESULTS AND OBSERVATIONS

Most of the patients came from rural area except two who were from city. Males are oftenly injured compared to females . 16 patients were attacked while rearing where as 4 were attacked accidentally by other means. In 20 cases, 16 were injured by oxen.

AGE DISTRIBUTION: TABLE 1

Age in years	No of patients
<10 yrs	1 (5%)
11 - 30	6(30%)
31 - 50	11(55%)
51 -70	1 (5%)
>70	1 (5%)

**most commonly effected age group are middle age

SEX DISTRIBUTION: TABLE 2

Males 15 (75%)	Females 5 (25%)

** males are commonly injured than females

TYPES OF INJURIES:

Type of injury is different in each patient as the process of struggle to defence differs but among them Commonest site of injury was abdomen followed by perineum, face, chest & limbs. Commonest type of injury was peritoneal breech without visceral damage. All the injured patients have lacerations varying from sizes 4 to 18 cm in different anatomical regions.

TABLE 3: SITE OF INJURY

SITE OF INJURY	NO OF CASES	NATURE OF INJURY	PROCEDURE
Abdomen	13 (65%)	• 7 cases with peritoneal breech with prolapsed bowel or omentum • 2 cases with mesenteric tear & hemoperitoneum • 1 case with ileal perforation (traumatic) • 3 cases with skin & subcutaneous tissue injury (lacerations) over abdomen	• Exploratory laparotomy+procedure
Perineum	3 (15%)	• 2 with irregular lacerations involving soft tissue at perineum • 1 with anal sphincters & rectal wall damage	• Primary repair + diversion colostomy+reconstruction
Limbs	2 (10%)	• UPPER LIMB - 1 case with both bone fracture	• Fixation of bone by

		• (RIGHT) • LOWERLIMB - 1 case with popliteal artery damage (LEFT)	• orthoprdicians
Chest	2 (10%)	• 1 case with fractured ribs & hemothorax • 1 case with fractured ribs only	• Intercostals drainage

**different injuries are managed according to their existing protocols

MANAGEMENT:

There was an average delay of 10 hours between injury and admission to hospital, with a range of 4-34 hours. Anti-tetanus serum and NSAID administration and an antibiotic was given to all the patients with lacerated wounds, which were treated with thorough wash and suturing. Abdominal injury is most common presentation in this study 13 out of 20 cases are presented with abdominal injuries. The details of the abdominal injuries and their treatment are set out in Table 3. most of them presented as peritoneal breech with prolapsed bowel or omentum with no obious internal organ damage for which we have done exploratory laparotomy with peritoneal lavage , followed by repair in layers. In 2 of these cases protruding omentum was excised. For a case with ileal perforation managed with exploration , lavage and primary repair of ileal perforation and for the two cases with hemoperitoneum due to mesenteric tear were managed with repair of mesentry and blood transfusions to maintain hemodynamical stability.

Perineal wounds involving the anal canal were allowed to heal by granulation tissue,The patient with an ano- rectal tear was treated by primary repair and adiversion colostomy followed by plastic surgery intervention to repair anal sphincters.

One patient with both bone (radius and ulna) open fracture is managed combindly with orthopedician and the limb survived but for the case of popletial artery damage with gangrene of leg ended with amputation of the leg.

Intercostals drains placed for the case presented with hemothorax followed by rib belt.

OUTCOME:

The mean hospital stay was 10 days with a range of 4 to 34 days. The patients were mostly agricultural workers and it was virtually impossible to organize any long term follow-up. The only other important complication of bullhorn injury was wound infection of varying severity in 8 (40 percent) patients. Three patients required resuturing of the wound. All the patients in my study are finally with no or low morbidity.

DISCUSSION:

Most of the wounds in this series were caused by an aggressive animal. Bull horn injuries are not very common and in this series the 20 injuries occurred over a 2-year period. Indeed reports from other hospitals in northandhra with bull horn injury are very few. In Great Britain in 1964 there were 4 fatal goring accidents and 102 non-fatal as compared with 6 and 141 respectively in 1963 (Wilson, 1966).

The abdominal injmies in this series were intriguing in that the wounds were most commonly sited on the right side of the abdomen, There are several possible explanations for this pattern of injury The head and therefore the horn of the attacking animal follows a semicircular path sideways or upwards and since the beast's head is at the same level as the patient's abdomen, this part of the human anatomy is most exposed to injury. The pre- dominance of injury to the right side of the abdomen is more difficult to explain, unless the patient instinctively turns the right side of his body towards the animal to use his right arm (dominent) in self-defence, and although in 7 cases there were protruding loops of bowel, there was damage to the intestine itself in only 1 case. The skin of the abdomen or perineum lies tangentially to the semicircular movement of the tip of the horn so that a relatively superficial lacerated wound is inflicted, often leaving the deeper structures and the peritoneum intact. Subcutaneous transfixation injury in the front of the chest from haemorrhage from buffalo attacks has been described by Shattock (1968).

Although the mechanism of injury appeared to be strikingly similar, deeper penetration of the abdominal wall could cause serious internal injury, as illustrated in this case series with a ileal perforation. In this study there are no examples of rupture of the liver or spleen, but study by Jordan, 1973 described severely damaged liver by the bull horn .

Penetrating wounds of the abdomen are traditionally treated by exploratory laparotomy. However, a negative result is obtained in a significant number of cases as reported byJordan, 1973 which is comparable with this study, out of 10 exploratory laporotomies 7 resulted negative study . It is true that a more conservative approach to stab wounds of the abdomen may lead to missed visceral injuries, but in penetrating injury due to a bull horn intestinal damage is rare.

By contrast, the perineal injuries are far more sinister, as the bull horn may become hooked in the perineum and produce bizarre complicated wounds. 29 cases of scrotal skin avulsion in bull fights have been reported in the literature and Gonzalez-Ulloa (1963) described one case which required a complicated plastic surgical manoeuvre to reconstruct the missing scrotum. In this study no scrotal injury is recorded. , Perineal wounds involving the anal canal were allowed to heal by granulation tissue, but vaginal and perineal injuries not involving the anal canal were repaired primarily (Mallik, 1966). The possible complications of incontinence were not encountered in this series. Damage to the rectum is a rare occurrence and seems to be most unusual in bull horn injuries. The principles of management of extra--peritoneal rectal injuries have been set out by Hughes (1969). In this study a patient with an extra- peritoneal anorectal tear recovered completely after primary repair of the extraperitoneal laceration of the right lateral wall of the rectum and construction of a diversion colostomy followed by plastic surgery intervention. In this series thigh injuries were relatively superficial but in bullfighters the thigh wounds tend to be very deep and may be fatal.

REFERENCES:

1. Gonzalez-Ulloa M. (1963) Severe avulsion of the scrotum in a bullfighter: reconstructive procedure. Br. J. Plast. Surg. 16, 154.
2. Hughes L. E. (1969) Penetrating injuries of the extra- peritoneal rectum. Br. J. Surg. 56, 169.
3. Hunter D. (1969) The Diseases of Occupations, 4th ed. London, English Universities Press, p. 1166.
4. Jordan G. L. (1973) Conservatism in the management of abdominal trauma. Am. J. Surg. 126, 581.
5. Mallik M. K. B. (1966) Animal horn injury in gynaecology. J. Med. Sci. p. 20.
6. Moring G. (1964) Uber die Stierkampfklinik in
7. Spanien. Ther. Ggw. 103, 1394.
8. Ong S. (1973) Bullfighters and their wounds. World Medicine 11, 17.
9. Shattock F. M. (1968) Injuries caused by wild animals. Lancet 1,412.
10. . Wilson G. S. (1966) Farm safety. Br. J. Industr. Med. 23, 1.
11. RasaretnamR.,VijayaragavanA.,ThavendranA.et al (1975) Thoracic and abdominal trauma. Ceylon Med. J. 20, 26.