

TO ASSESS MANAGEMENT OF PENETRATING ABDOMINAL STAB WOUNDS WITH ORGAN OR OMENTUM EVISCERATION AT A TERTIARY CARE CENTRE

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Abstract

Background: Organ evisceration following an abdominal stab wound (SW) is an absolute indication for surgical exploration as the eviscerated organs. The present prospective study was conducted to assess management of penetrating abdominal stab wounds with organ or omentum evisceration. **Materials and Methods:** The present prospective study was conducted to assess management of penetrating abdominal stab wounds with organ or omentum evisceration. Patients were divided into 3 groups in terms of timing of laparotomy. The data was collected and assessed. **Results:** In the present study 93.33% were males and 6.66% were females. The mean age of patients was 28.9 years. In 20% patients organ evisceration, 66.66% had omental, and 13.33% had both organ and omental evisceration. 26.66% patients underwent emergency laparotomy, 20% underwent early and 16.66% underwent late laparotomy. 36.66% patients were managed non-operatively. **Conclusion:** The present study concluded that maximum patients were managed non-operatively followed by emergency laparotomy, early and late laparotomy.

INTRODUCTION

The abdomen is the most injured area in trauma patients.^[1] with abdominal trauma leading in morbidity and mortality in all age groups in the world.^[2,3] Stab wounds and gunshot wounds are the most common causes of penetrating abdominal injuries.^[3-6] Abdominal stab injuries with omental evisceration represent 7% of all laparotomies performed for penetrating abdominal injuries. Omental evisceration connotes peritoneal penetration and translates to around 68%-75% risk of intra-abdominal injury.^[7] Organ evisceration is an indication for emergency laparotomy, omental evisceration is not an absolute indication, and non-operative therapy may be employed in selected cases.^[8-12] Standard radiological preoperative assessment involves chest and abdominal roentgenography, triple contrast computed tomography scans, retrograde urethrograms, and cystograms to rule out injuries ranging from diaphragmatic involvement to bladder injuries.^[13] Surgical management of patients depends on

mechanism of injury, haemodynamic state, and accompanying injuries. Stable haemodynamic stab wounds patients may not always necessitate surgery.^[13-14,5] The present prospective study was conducted to assess management of penetrating abdominal stab wounds with organ or omentum evisceration.

MATERIALS AND METHODS

The present prospective study was conducted to assess management of penetrating abdominal stab wounds with organ or omentum evisceration. Before the commencement of the study, all patients' consent forms were taken. Patients with penetrating abdominal stab injuries with omental or organ evisceration were evaluated. The study period was 1 year. Hemodynamic instability, peritonitis, and organ evisceration were considered as emergency laparotomy indications, whereas the rest of the patients were approached non-operatively. Hemodynamic instability was diagnosed when systemic blood pressure failed to elevate above 90

mm-Hg despite sufficient resuscitation. Patients were divided into 3 groups in terms of timing of laparotomy.

Emergency laparotomy group: The patients who were immediately operated on simultaneously with resuscitation,

Early laparotomy group: Those who were operated on within the first 8 hours and

Late laparotomy group: Those who were operated on after 8 hours.

In cases of pure omental evisceration, the omentum was cleaned with sterile isotonic saline solution and then reduced to the abdominal cavity. Thereafter, the fascia and skin incision was closed routinely and followed by non-operative monitoring, except for the emergent laparotomy indications. Injuries passing beyond the posterior abdominal fascia in the local injury site exploration were accepted as penetrated to the abdomen and followed for 48 hours. Routine follow-up was done. Physical examination to detect signs of peritonitis and vital signs, routine laboratory tests were performed. All patients were administered tetanus vaccine and a single dose of prophylactic

antibiotic (ampicillin + sulbactam); no analgesics were given. The data was collected and assessed. Normally distributed continuous variables were expressed as mean±standard deviation; categorical variables were expressed as frequencies and percentages.

RESULTS

In the present study 30 patients with penetrating abdominal stab injuries with organ or omental evisceration were included.

In the present study 93.33% were males and 6.66% were females. The mean age of patients was 28.9 years.

In 20% of patients' organ evisceration, 66.66% had omental, and 13.33% had both organ and omental evisceration.

26.66% of patients underwent emergency laparotomy, 20% underwent early and 16.66% underwent late laparotomy. 36.66% of patients were managed non-operatively.

Table 1: Demographic data

Variable	N(%)
Gender	
Male	28(93.33%)
Female	2(6.66%)
Mean age	28.9 years

Table 2: Type of evisceration

Type of evisceration	N(%)
Organ evisceration	6(20%)
Omentum evisceration	20(66.66%)
Both organ and omentum evisceration	4(13.33%)

Table 3: Timing of laparotomy

Timing of laparotomy	N(%)
Emergency laparotomy	8(26.66%)
Early laparotomy group	6(20%)
Late laparotomy group	5(16.66%)
Managed non-operatively	11(36.66%)

DISCUSSION

Peritonitis and hemodynamic instability constitute strong indications for emergency laparotomy. Hence, initial vital signs and abdominal physical examination on admission remains the cornerstone of trauma triaging. The incidence of significant intra-abdominal injury approaches 85% for hemodynamically stable patients with signs of generalized peritonitis.^[15]

In the present study 93.33% were males and 6.66% were females. The mean age of patients was 28.9 years. In 20% patients organ evisceration, 66.66% had omental, and 13.33% had both organ and omental evisceration. 26.66% patients underwent emergency laparotomy, 20% underwent early and 16.66% underwent late laparotomy. 36.66% patients were managed non-operatively.

In the study by De Robles M B, et al almost all patients were male (99%) with a mean age of 32.1 years (range 14-70). The majority (81%) had a therapeutic laparotomy, and only 19 patients (19%) had a non-therapeutic laparotomy. The most commonly injured organs include the small bowel, stomach, colon, diaphragm, and liver. There was no significant difference in age, sex, duration of injury, systolic blood pressure and heart rate at presentation between the two groups. There were significantly more patients who presented with peritonism in the therapeutic laparotomy group compared to the non-therapeutic laparotomy group (82% vs 53%, p=0.005). Patients who presented with peritonism were six times more likely to have a therapeutic laparotomy. There was no significant difference between morbidity and mortality rates in the two groups. The length of hospital stay for the non-therapeutic laparotomy group was significantly

shorter compared to the therapeutic laparotomy group (3.6 vs 5.7 days, $p=0.006$).^[16]

In a study by Navsaria PH, et al, One hundred and eighty-six patients with abdominal stab wounds were admitted. There were 171 (91.9%) males, with a mean age of 29.5 years. Seventy-four patients (39.8%) underwent emergency laparotomy. There were 5 negative laparotomies (6.8%). The remaining 112 patients (60.2%) were assigned for abdominal observation. One hundred (89.3%) of these patients were successfully managed non-operatively. The remaining 12 patients underwent delayed laparotomy, which was negative in 2 cases (16.7%). Non-operative management was successful in 53.8% of patients overall. The overall sensitivity and specificity of serial abdominal examination was 87.3% and 93.5%, respectively.^[17]

In a study by Yucel M et al, a total of 18 patients with organ or omental evisceration were assessed. Six (33.3%) patients underwent emergent laparotomy, and 12 (66.7%) patients underwent conservative follow-up. Three patients in the emergent laparotomy group had signs of organ evisceration, and 3 had signs of peritonitis; five of these 6 patients underwent therapeutic laparotomy and 1 negative laparotomy. In the non-operative follow-up group, therapeutic laparotomy was carried out in a total of 7 patients, 4 being early and 3 late, due to development of peritonitis, whereas 5 (27.8%) patients were managed non-operatively.^[7]

CONCLUSION

The present study concluded that maximum patients were managed non-operatively followed by emergency laparotomy, early and late laparotomy.

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