ORIGINAL ARTICLE

Management of Patients with Abdominal Trauma in Allama Iqbal Memorial Teaching Hospital, Sialkot

ANSAR LATIF[1], FAISAL SHABBIR[2], RESHAM DAR[3], *ZAFAR ALI CHOUDRY[4], MUHAMMAD QASIM BUTT[5], ASIF SAJJAD[6]*

ABSTRACT

Aim: To study the nature and prognosis of the patients with abdominal trauma presenting in emergency setting at Allama Iqbal Memorial Teaching hospital, Sialkot.
Study Design: Prospective study.
Place & duration of study: Department of General Surgery, Khawaja Muhammad Safdar Medical College, Sialkot from January 2015 to January 2018.
Methods: All patients serially presented in the surgery Department of Allama Iqbal Memorial hospital with history of trauma to abdomen were registered. Male and female patients of all age groups were included. Trauma to head and neck, chest and limbs were not included as these were managed by the respective departments. Patients with perineal injuries and external genitalia were excluded from the study. Patients having poly trauma were excluded. The patients were classed in three groups: Groups
Results: Of the 845 patients admitted done during the period of study; twenty four patients had obstetric/gynaecological factors were excluded from the study. Group I patients having penetrating abdominal trauma included 576 patients Group II patients 91 blunt trauma to abdomen.
Conclusion: Abdominal trauma poses a great challenge for the surgeons working in surgical emergencies. Though the management is varied but timely management leads to good outcome alongside a variety of complications and mortality as well.
Key words: Penetrating trauma, laparotomy, splenorhaphy, exploration

INTRODUCTION

Trauma is the leading cause of morbidity and mortality in both developed and third world countries till age of 40[1]. Penetrating trauma is more common than blunt trauma and among penetrating stab wounds are three times more common than gunshot but with decreased mortality rate due to low kinetic energy. In early to mid 90s early laparotomy was the procedure of choice but with evolution and advancement in medical sciences such as introduction of CT scan USG and FAST management techniques for trauma have been revolutionized[2,3].

Abdominal trauma is a challenge to the presenting surgeon who has to consider pros and cons of all types of management options and which option is more suitable to that particular patient with minimal side effects[4]. For management of abdominal trauma both conservative and surgical approaches can be used. Conservative approach includes imaging studies with drawback of missing injury that can lead to potentially life threatening complications and even death. Surgical options include exploratory laparotomy with a benefit of not missing even a single injury but it has complication rate upto 40%. Recently laparoscopy is making its way into the management of trauma but it has its limitations as well. Above all management of trauma requires skillful surgeon and expertise staff readily available[5].

Whenever patient presents with history of abdominal trauma first step is to make sure that patient is vitally stable. If on clinical examination there is evidence of penetrating trauma patient is immediately taken to operation theatre for exploration. If there is no definitive penetrating trauma wound exploration under local anesthesia is performed. If on wound exploration there is any evidence of penetrating abdominal injury there should be further workup in the form of investigations and if there is no obvious trauma patient should be discharged after first aid[6,7].

Diagnostic laparoscopy can be an option for evaluation of injury. It can be used for both diagnostic and therapeutic purpose. Some researches show that ultrasound can be used for wound exploration but it requires trained personnel and procedure has high risk of complications so it is not practically applied. In some population it is difficult to ascertain the exact tract of penetrating wound i.e., whether it has entered the peritoneal cavity or not. In such cases of doubt laparoscopy is the procedure of choice[8].

Almost all patients presenting with gunshot wounds are explored via either laparotomy or laparoscopy. Advantages of laparoscopy include two dimensional wound exploration, wound closure at the same time, early recovery and early discharge from the hospital. Disadvantages include that it is costly procedure and requires trained personnel. Decade ago 3mm laparoscope was used for management of trauma but its disadvantages outweigh its benefits due to which it is no more in practice now a days[9,10].

Post operative complication is not a topic of discussion so: In the present study, we collected the data

Department of Surgery, Khawaja Muhammad Safdar Medical College, Sialkot.
[1]Associate Professorof Surgery,
[2]Assistant Professor Surgery
[3]HO Surgery, [4]Professor of Surgery,
[5]Senior Registrar Surgery, [6]District Consultant Surgeon,
Correspondence to Dr Ansar Latif.
Email: ansarlatif2013@gmail.com Cell: +923217103994.

of our patients undergoing surgery and analyzed the incidence of concomitant pathology encountered during appendectomy and gynaecological pathology alone mimicking appendicitis being done at Allama Iqbal memorial teaching hospital affiliated with Khawaja Muhammad Safdar Medical College, Sialkot.

PATIENTS AND METHODS

All patients serially presented in the surgery Department of Allama Iqbal Memorial hospital with history of trauma to abdomen were registered. Male and female patients of all age groups were included. Trauma to head and neck, chest and limbs were not included as these were managed by the respective departments. Patients with perineal injuries and external genitalia were excluded from the study. Patients having poly trauma were excluded. The patients were classed in three groups: Group I patients having penetrating injuries to abdomen Group II Blunt Trauma to abdomen. Patients were admitted and managed according to nature and indications for surgical intervention. Minimum of three months of follow up was must for inclusion in the study. Data was entered and analysis done by SPSS v 22.

RESULTS

The basic demographic data of our patients is shown in Table I. The differential injuries encountered during these surgeries are shown in the Table II. The leading cause of the trauma was violence (41%) followed by traffic accidents

Table I: General data

Total no of patients in Study	821	100%
Age	4 - 47 years	Mean age 37±8 years
Injuries caused by Firearm	149	18.14%
Road traffic accidents	228	27.77%
Physical fighting/Violence with sharp weapon/stabs	375	45.67%
Falls	69	8.49%
Group I- Penetrating Trauma	576	70.15%
Group II- Blunt trauma	245	29.84%

Table II: Spectrum of injuries /definite diagnosis

Group I- Penetrating Trauma(636)(100%)			**Group II**-(126) (100%)	
Liver injuries	135	(21.22%)	31	(24.60%)
Spleen injuries	263	(41.35%)	23	(18.25%)
Stomach and omentum	26	(4.08%)	5	(3.96%)
Duodenal injuries	3	(0.47%)	0	(0%)
Jejunal and ileal injuries	139	(21.85%)	19	(15.07%)
Colonic injuries	10	(1.57%)	0	(0%)
Renal and Urinary tract trauma	16	(2.51%)	2	(1.58%)
Retroperitoneal heamatoma	9	(1.41%)	2	(1.58%)
Diaphragm	6	(0.94%)	2	(1.58%)
Only abdominal wall involved	29	(4.55%)	42	(33.33%)

Table III: Management done depending upon the nature of injuries

Management/ Procedures data	**Group I-** -(636)(100%)	**Group II**- (126) (100%)
Repair of Liver	75 (11.79%)	21(16.66%)
Splenorhaphy	93(14.62%)	17(13.49%)
splenectomy	17(2.67%)	1(0.79%)
Repair Stomach and omentum	26(4.08%)	5(3.96%)
Closure of Duodenal stump and Gastrojejunostomy	3(0.47%)	0
Jejunal and ileal injuries- Repair	102(16.03%)	14(11.11%)
Iliostomies	37(5.81%)	6(4.76%)
Colostomy	10(1.57%)	0
Repair of Renal injuries	2(0.31%)	0
Suprapubic cystostomy	4(0.62%)	0
Diaphragmatic repair	6(0.94%)	2(1.58%)
Wound closure/ repair of abdominal wall	19(2.98%)	32(25.39%)

Table IV: Morbidity and mortality data

Morbidity and mortality data	**Group I 636(100%)**	**Group II- 126 (100%)**
Wound infections	11(1.72%)	19(15.07%)
Enterocutaneous fistula	2(0.31%)	1(0.79%)
Intra-abdominal abscess	3(0.47%)	2(1.58%)
Wound dehiscence	7(1.10%)	4(3.17%)
DIC	2(0.31%)	3(2.38%)
Re-exploration for Re-bleed and Intestinal leakage	3(0.47%)	5(3.96%)
Mortality	3(0.47%)	1(0.79%)

DISCUSSION

With the great increased quantum of abdominal surgery, working as emergency surgeon is really taxing. The recent study done at our hospital shows the findings expressed in tables. Our study presents wound infection rate to be 1.72% and 15.07% in penetrating and blunt abdominal trauma respectively; while the study of Branney et al[11] reported a rate of 7.02% .

We report incidence of enterocutaneous fistula as 0.31% and 0.79% in penetrating and blunt abdominal trauma respectively; while the study of Willmann et al[12] reported a rate of 0.12%.

In studies by Fabian et al[13], The intraabdominal sepsis and abscess formation to be 5%, while these complications are 0.47% and 1.58% in penetrating and blunt abdominal trauma respectively in our study.

Wound dehiscence being 1.10% and 3.17% in penetrating and blunt abdominal trauma respectively; while the study of Hoff et al[4] reported a rate of 0.9%. In study by our study had mortality figures of 3 (0.467%) and 1 (0.79%) in penetrating and blunt abdominal trauma respectively; while the study of Alli[15] reported a rate of 4%.

CONCLUSION

Abdominal trauma poses a great challenge for the surgeons working in surgical emergencies. Though the management is varied but timely management leads to good outcome alongside a variety of complications and mortality as well.

Disclosure: The authors report no conflict of interest concerning the materials or methods used in this study or the findings specified in this paper

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