ORIGINAL RESEARCH PAPER
Volume-6 | Issue-11 | November-2017 | ISSN No 2277 - 8179 | IF : 4.176 | IC Value : 78.46
INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH

TRAUMATIC RETROPERITONEAL ORGANS INJURY – A STUDY

Surgery

Akhilesh Kumar Senior Specialist (Surgery), Dr. Sampurnanand Medical College, Jodhpur – 342 001 (Rajasthan, India).

S. S. Rathore* Senior Professor (Surgery), Dr. Sampurnanand Medical College, Jodhpur – 342 001 (Rajasthan, India). *Corresponding Author

Vaibhav Vishal Ex- Junior Resident (Surgery), Dr. Sampurnanand Medical College, Jodhpur – 342 001 (Rajasthan, India).

KEYWORDS

Traumatic, Retroperitoneal Organ, Injury, Blunt trauma

Introduction:

Traumatic injury is a leading national and international health problem. In young patients (01-37 years) trauma results in death more than any other cause. It is estimated that by A.D. 2020 more than 10% of people will die from trauma[1].

The Advanced Trauma Life Support (ATLS) revolutionised the management of trauma patients[2]. Retroperitoneum consist of many vital organs like duodenum, pancreas, ascending and descending colon, major vessels like aorta and inferior vena cava and genito-urinary organs like kidney, ureter and urinary bladder. Injuries to retroperitoneal organs are often very difficult to diagnose as signs are usually masked. Intra peritoneal diagnostic test like ultra sonography or diagnostic peritoneal lavage may be negative. Computed tomography is best diagnostic modality available but this requires physiologically stable patient. So, a high degree of suspicion is required in all abdominal trauma patients to diagnose correctly, retroperitoneal organ injury. 10% of all abdominal injuries involve Genitourinary System (GUS) with kidney being most common injured organ[3].

Management of these retroperitoneal injuries depend on multiple variables like organ(s) injured, severity of injury, patient's overall general conditions associated other injuries and surgical expertise of the surgeon with consideration of available facilities in the institute.

Materials and Method:

Patient admitted in Mathura Das Mathur Hospital and Mahatma Gandhi Hospital attached to Dr. S. N. Medical College Jodhpur, Rajasthan from January 2011 to December2013. A total of 56 patients were included in this study.

Method of Collection of Data:

1. Direct interview with patient or patient's relatives
2. Through clinical examination of patient
3. Relevant diagnostic investigations performed over patient

Inclusion Criteria:

- Patient included with history of blunt trauma abdomen by any means like RTA (Road Traffic Accident), fall from height (FFH), assault, penetrating and gunshot injuries in reference to Western Rajasthan.
- Patients were examined by focused abdominal ultrasonography from trauma.
- Patients with haematuria and other signs of retroperitoneal organ injuries were advised C.T. with I.V. Contrast.

Observation and Discussion:

In this study we included total 56 patients. Maximum incidences of injuries were seen in third decade of life (42%) followed by second decade of life (19%)[4,5]. In total 56 patients Out of which 51 cases were male and only 5 were female with sex ratio 1:1.87[5,6,7,8]. Most common mode of injuries was Road Traffic Accident with 76% of cases followed by fall from height (16%)[6,7,9]. Patient presented in trauma centre most commonly with symptoms of pain abdomen (66%) followed by haematuria (37%), abdomen distension (33%), vomiting (21%) and retention of urine (9%) shows in Table – I[9, 10, 11]. Among all retroperitoneal organs injuries kidney (53%) was most commonly injured organ, retroperitoneal haematoma (18%), bladder injury (14%), pancreas (9%) followed by duodenal injuries (5%) of cases shows in Table – II[9,13]. In our study out of 56 cases 40 cases (72%) had associated intra peritoneal organ injuries. Liver was the most commonly injured organ in 9 cases (25%) of total, spleen was next with 5 cases (14%). Haemoperitoneum was found in 17 cases (48%) due to various injuries other had mesenteric injuries (5.7%), omental injuries (2.8%) and bowel loop injuries (2.8%) shows in Chart - 1[6,9,12,13]. Treatment modalities depended on the organ involved. Most of the renal injury 27 cases (90%) out of total 30 cases were treated conservatively, out of 8 cases of isolated bladder injury only 1 case (12.5%) treated conservatively and rest 7 cases (87.5%) repaired surgically. All 5 cases (100%) of pancreatic injury were treated conservatively. Duodenal or colonic injury (4 cases) all were required operative management. Isolated retroperitoneal haematoma out of 9 cases all were managed conservatively out of 9 cases of multiple organ injury 4 cases (44%) needed operative and remaining 5 cases (66%) managed conservatively[14,15,16].

Conclusion:

This prospective study was conducted on 56 cases of blunt trauma abdomen.

In this series younger age group i.e. third decade, followed by second decade were most commonly suffered groups. Blunt trauma abdomen is much more frequent in males than females with the ratio being 8.7:1. In our study main mode of injury was road traffic accident this is due to the rapid development in automobile industry.

Pain abdomen with hematuria was the main presenting complaint at the time of admission in trauma centre followed by abdominal distension, vomiting and retention of urine.

Among all retroperitoneal organ injuries kidney was the most commonly injured organ followed by retroperitoneal haematoma due to various causes. Liver was the most common injured intraperitoneal organ in blunt trauma abdomen with retroperitoneal injury followed by spleen, mesenteric, omental and bowel injury presented with haemoperitonium.

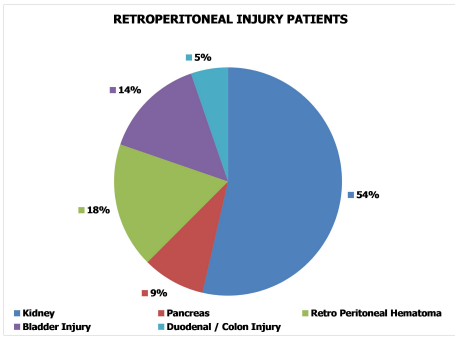
Most of the renal injuries, pancreatic injuries and isolated retroperitoneal hematoma were managed conservatively while all isolated bladder injuries and bowel injuries required operative management.

Table No 1: Presenting Complains in Retroperitoneal Injury Patients (N=56)

Complains	No. of Cases	% of Total Cases
Pain Abdomen	37	66
Hematuria	21	37
Abdomen Distension	19	33
Vomiting	12	21
Retention of Urine	05	9
Loss of Consciousness	02	1.7

Table No 2: Intraperitoneal Injuries along with Retroperitoneal trauma Patients

	Total No. of Cases	% of Cases
Hemoperitonium	17	42.5
Liver	9	22
Spleen	5	12.5
Pelvic Fracture	5	12.5
Mesentery	2	5
Omentum	1	2.5
Bowel Loop	1	2.5



REFERENCES:

1. Bailey and love's short practice of surgery 26th edition. Early assessment and management of trauma.
2. American college of surgeons' committee on trauma. Advanced life support course. Chicago, IL : American college of surgeon,2008.
3. Williams RD and Zollinginer RA: Diagnostic and prognostic factor in abdominal trauma.(Am. J. Surg. 1959 :97,575)
4. Allen RB and Curry CJ : Abdominal trauma ; A study of 297 consecutive cases. Ann. Surg. 93, 398; 1598
5. Frick E J ,Pasquale MD, Cipolle MD, Small-bowel and mesentery injuries in blunt trauma. J Trauma 1999; 46(5):920-26.
6. Velmahos C et al : Non operative treatment of blunt injury to solid abdominal organs, Arch Surg. 2003;138(8):844-855.
7. Yih-Gang Goan, MD, Mu-Shun Huang, MD, et al, Non operative management for extensive hepatic and splenic injuries with significant hemopertioneum in adult. J trauma; 18998(45)2; 360-365.
8. Dror Soffer MD, Carl I. Schulman MD, Mark G, McKenney MD. et al, What does ultrasonography miss in blunt trauma patients. J Trauma, 2006,60(6);1184-1188.
9. Neugebauer H, Wallenboeck E, Hungerford M. Seventy cases of injuries of the small intestine caused by blunt abdominal trauma: a retrospective study from 1970 to 1994 ,J Trauma. 1999 Jan; 46(1):116-21.
10. Mohapatra Srikant, Pattanayak SP, Rao KRRM, Bastia B. Options in the management of solid visceral injuries from blunt abdominal trauma. Indian J Surg 2003; 65:263-8.
11. Alli N: Management of blunt abdominal trauma in Maidugui – A retrospective study: Niger J Med 2005 Jan March; 14(1):17-22.
12. Gary S, Fredrik A, Moore: Hollow visceral injury and blunt trauma. The Journal of Trauma ; 1998; 69-78.
13. Joe Jack Davis, Isidore Cohn, Francis C. Nance; Diagnosis and management of blunt abdominal trauma. Ann. Surg, and June 1976: vol 183: No 6; p672-678.
14. Santucci RA, Wessells H, Bartsch G, et al. Evaluation and management of renal injury: a consensus statement of renal trauma. BJU Int 2004;94:27-32.
15. Santucci RA, McAninch JW. Diagnosis and management of renal trauma: Past, present, and future. J Am Coll Surg. 2000;191:443–51. [PubMed].
16. Broghammer JA, Fischer MB, Santucci RA. Conservative management of renal trauma: a review . Urology 2007; 70:623-9.