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Research Article

**MANAGEMENT AND PREVALENCE OF SPLENIC TRAUMA
IN ACCORDANCE TO GRADE AND MODE OF
PRESENTATION**¹Dr.Naseem Abbas, ²Dr.Assem Akram Butt, ³Dr.Mehdi Hassan¹Quaid E Azam Medical College Bwp²Bolan Medical College Quetta³ELAM Cuba**Abstract:****Objective:** To investigate the prevalence and management of splenic trauma based on mode and degree.**Study Design:** A prospective descriptive study.**Place and duration:** In the Surgical Department, Jinnah Hospital Lahore for one year duration from December 2016 to December 2017.**Methodology:** All cases presenting with abdominal trauma and splenic injury to the emergency department. The data of all patients with splenic trauma were formulated and analyzed.**Results:** A total of 44 patients between 20 and 40 years of age presenting with splenic lesion; 32 (72.7%) were male. Closed abdominal injury (50%) and most patients (47%) had grade III injuries. Splenectomy was performed in 84% of patients and splenic recovery was performed in 9%. Seven (15.9%) patients with splenectomy died in the series.**Conclusion:** Splenic injury was mainly caused by closed abdominal trauma. Accurate assessment of the degree of injury during laparoscopy resulted in more splenic recovery procedures with less risk of complications.**Key words:** Trauma, splenectomy, splenic recovery, spleen.**Corresponding author:****Dr.Naseem Abbas,**

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INTRODUCTION:

Spleen has been called as mystery-filled organ since Galen days. The observation that asplenia may be compatible with life was analysed by Aristotle and later confirmed by Wiren and Morgagni in the seventeenth and eighteenth centuries. Adriano Zacariolla said Splenectomy was performed due to the overwhelming infections after trauma in 1678 to 1549 and Nicholas Mathlas was the first to undergo a disease process, it was suggested that spleen injury may be made to a minimum of splenectomy rates. The spleen is a highly fragile and vascular organ with immunological and hematological functions. By definition, splenic trauma is a physical injury to the spleen. This lymphatic organ located beneath the left thoracic cage is very sensitive to injuries such as blunt trauma, due to its position and consistency. In Western countries, blunt trauma is much more exposed to penetrating trauma as the cause of splenic injury, and traffic accidents are the most common cause of blunt trauma. Splenic rupture, stabbing, or fractures, such as fractures, but in these cases, other associated intra-abdominal lesions have a high chance. Nowadays, with the help of advanced diagnostic and monitoring techniques, the understanding that splenic retardation reduces the ability to fight infections has led to splenic rescue operations and non-operative treatment. The aim of this study was to determine the prevalence and management of splenic trauma due to spleen and trauma.

PATIENTS AND METHODS:

This study was performed in the Surgical Department, Jinnah Hospital Lahore for one year

duration from December 2016 to December 2017 in the patients who presented with an emergency history of abdominal trauma and suspected splenic rupture. The degree of organ injury was determined by providing adequate emergency care. The initial management consisted of a study of patients' and other people's injury as well as a close physical examination of the patient and monitoring of vital signs. Blood tests, urinalysis, chest x-ray and abdomen were performed in most cases. In most cases, an abdominal ultrasound was performed when performing a CT scan, depending on its suitability and patient's condition. The study was decided for clinical reasons. The degree and severity of the splenic lesion and the decision for splenectomy or recovery procedure were evaluated according to the standard classification system in laprotomy. Data were analyzed by using SPSS version 17.0. All patients under 12 years of age were not included in the study and were referred to the pediatric surgery department.

RESULTS:

A total of 44 patients presented with splenic trauma in the Department of Surgery. Among them, 32 (72.7%), aged 20 and 40 years of age were male and 12 (27.2%) female in most cases (88.6%) with five (11.3%) patients more than 50 years. In 14 patients (31.8%) and ultrasound in the abdominal CT 3 (6.8%), the diagnosis of splenic trauma was performed clinically in 27 (61.3%) patients. The causes of splenic trauma are shown in Table I. Of 22 patients with blunt trauma, 3 (13.6%) were delayed.

Type of Injury	M	F	Total
Road Traffic Accident	11	5	16
Stab Wounds	5	—	5
Firearm Injuries	14	3	17
Falls	1	1	2
Punches, Kicks, Blast	1	3	4
Total	32	12	44

Table I. Causes of Splenic Injury

A rupture was observed on the 6th and 10th days after the trauma. In 1 (4.5%) patient, even after 4 weeks, hematoma did not resolve and required splenectomy. Visceral injuries, including cecal perforation, two jejunal perforations, and two multiple lesions, occurred in 5 (22.7%) cases of closed abdominal trauma; Bone lesions were also observed in 12 (54.5%) patients. Seven patients had multiple rib fractures in the left lower thorax. In the firearm, which was observed in 17 injuries, there are associated abdominal intra-abdominal injuries,

associated with small intestine lesions, including the left dome perforated diaphragm, 12 (70%), multiple lesions and 5 (29.4%) eight (47%). Among the 22 (50%) injuries of firearms and stabs, and 4 (9%) cases of blunt trauma, peritonitis and shock characteristics demanded laparotomy immediately after resuscitation; In the remaining 18 cases (40.9%), the first observation and conservative measurements were followed by clinical, ultrasonography and computed tomography findings.

Splenic Injury	Number	%
Grade-I	1	2.3
Grade-II	7	15.9
Grade-III	21	47.7
Grade IV	15	34.1

Table II. Grades of Splenic Injury (Moore et al⁷)

The classification of the cases is shown in Table II. Splenic rescue was performed in 4 (9%) of 44 cases with splenic lesions (Table III), and splenectomy was performed in other cases. In 23 (52.2%) cases postoperative complications (Table IV) and in 7 (15.9%) patients died during the study.

Table III. Splenic Salvage Procedure

Salvage Procedure	Grade	No.(%)
Simple repair	I	1(22.0)
Repair + Spongestone	II	2(04.5)
Repair + Omentopexy	III	1(02.2)

DISCUSSION:

Abdominal trauma is one of the most common causes of death and morbidity during the first forty years of life and is the third most common cause of death in general. In this study, most patients were the third or fourth decade of life. In our study, spleen injury was more common in males (73%); this series was confirmed by Ahmad and Ahmad by Memon et al. This may be due to the conservative role of women in

our society; In addition, men are mainly involved in conflicts, conflicts, etc. In this study, 50% of the cases had closed cardiovascular trauma, and a similar finding was found in Carlin et al. Arıkan et al. (2007) reported that traffic accidents are the most common cause of closed abdominal trauma. Blunt trauma (22) was delayed in 3 of the spleen (13.6%) and operated for 6 to 10 days.

Table IV. Postoperative Morbidities

Morbidity	No.	%
Pulmonary infection	7	15.9
Wound infection	6	13.6
Septicaemia	5	11.3
Subphrenic abscess	1	2.2
Pancreatic fistula	3	6.8
Pneumococcal pneumonia	1	2.2

In his hand he made a similar observation in his work. In all cases with armed injuries, Javed and his colleagues reported visceral injuries as reported in his work. Grade III injuries were the most common splenic lesions in our study (47%). The degree of lesions followed (34%). Mufti and colleagues in Abbottabad gave similar results. Javed et al. Did not have a single splenorrhaphy in their series, but Memon et al. Provided splenic protection in stable patients with lower degrees of injury. In this study, most patients ended up with splenectomy and recovery was performed in only four cases. Postoperative complications occurred in 52.2% of our patients. The most common complication was pulmonary infection in seven cases; However, there was also a thoracic injury at the same time in five. Kamel et al., Memon et al. Also showed increased risk of complications after splenectomy. In our study, seven (15.9%) patients died. However, they did not have splenic injury or sepsis after splenectomy, and some of them had other visceral and bone lesions. Conservative splenic therapy and splenic healing procedures in recent years have evolved to reduce the risk of sepsis after splenectomy.

CONCLUSION:

The current trend in spleen trauma is under strict clinical control and is related to the degree of injury, associated injuries and the condition of the patient. Spleen can be recovered by timely intervention, adequate experience, adequate theatrical facilities and specific research.

REFERENCES:

1. Dabrowiecki A, Subramanian A, Gelbard R, Martin J, Dariushnia S. 3: 54 PM Abstract No.

19 Implementation of the EAST guidelines for splenic trauma: comparing outcomes of splenic artery embolization and splenectomy at a large level 1 trauma center. *Journal of Vascular and Interventional Radiology*. 2018 Apr 30;29(4):S12-3.

- Dhillon, Navpreet K., Galinos Barmparas, Gretchen M. Thomsen, Kavita A. Patel, Nikhil T. Linaval, Emma Gillette, Daniel R. Margulies, and Eric J. Ley. "Nonoperative Management of Blunt Splenic Trauma in Patients with Traumatic Brain Injury: Feasibility and Outcomes." *World journal of surgery* (2018): 1-8.
- Higley, Jared, Stephen Pittman, Babawale Oluborode, Byron Dubow, Alisa Cross, Tabitha Garwe, and Brian Cross. "MP25-10 AN EXAMINATION OF THE MANAGEMENT OF RENAL TRAUMA WITH CONCURRENT SPLENIC INJURY." *The Journal of Urology* 199, no. 4 (2018): e330.
- Fugazzola, P., Morganti, L., Coccolini, F., Magnone, S., Montori, G., Ceresoli, M., Tomasoni, M., Piazzalunga, D., Maccatrozzo, S., Allievi, N. and Occhionorelli, S., 2018. The need for red blood cell transfusions in the emergency department as a risk factor for failure of non-operative management of splenic trauma: a multicenter prospective study. *European Journal of Trauma and Emergency Surgery*, pp.1-6.
- Armstrong RA, Macallister A, Walton B, Thompson J. Successful non-operative management of haemodynamically unstable traumatic splenic injuries: 4-year case series in a UK major trauma centre. *European Journal of Trauma and Emergency Surgery*. 2018 Jun 16:1-6.

6. Smith, Stella R., Louise Morris, Stephen Spreadborough, Waleed Al-Obaydi, Marta D'Auria, Hilary White, and Adam J. Brooks. "Management of blunt splenic injury in a UK major trauma centre and predicting the failure of non-operative management: a retrospective, cross-sectional study." *European Journal of Trauma and Emergency Surgery* 44, no. 3 (2018): 397-406.
7. Teixeira, Pedro G., Lawrence H. Brown, Sadia Ali, Ben Coopwood, Jayson D. Aydelotte, and Carlos VR Brown. "Is It safe? Nonoperative management of blunt splenic injuries in geriatric trauma patients." *Journal of Trauma and Acute Care Surgery* 84, no. 1 (2018): 123-127.
8. Dolejs, Scott C., Stephanie A. Savage, Jennifer L. Hartwell, and Ben L. Zarzaur. "Overall splenectomy rates stable despite increasing usage of angiography in the management of high-grade blunt splenic injury." *Annals of surgery* 268, no. 1 (2018): 179-185.
9. Bilello, John F., Victoria L. Sharp, Rachel C. Dirks, Krista L. Kaups, and James W. Davis. "After the embo: predicting non-hemorrhagic indications for splenectomy after angioembolization in patients with blunt trauma." *Trauma surgery & acute care open* 3, no. 1 (2018): e000159.
10. Mansfield, S.A. and Rushing, A.P., 2019. Management of Splenic Trauma in Adults. In *Shackelford's Surgery of the Alimentary Tract, 2 Volume Set* (pp. 1622-1625). Content Repository Only!.
11. Margari, Sergio, Fernanda Garozzo Velloni, Massimo Tonolini, Ettore Colombo, Diana Artioli, Niccolò Ettore Allievi, Fabrizio Sammartano, Osvaldo Chiara, and Angelo Vanzulli. "Emergency CT for assessment and management of blunt traumatic splenic injuries at a Level 1 Trauma Center: 13-year study." *Emergency radiology* (2018): 1-9.
12. Booth, Benjamin J., Stephen M. Bowman, Mauricio A. Escobar Jr, and Sam R. Sharar. "Long-term sustainability of Washington State's quality improvement initiative for the management of pediatric spleen injuries." *Journal of pediatric surgery* (2018).
13. Carrelli, P., Degeyter, K., Collins, D., Keating, L., Mandato, K., Herr, A., Englander, M., Stark, C. and Siskin, G., 2018. Abstract No. 427 Proximal splenic embolization: an important role for IR in the treatment of splenic trauma. *Journal of Vascular and Interventional Radiology*, 29(4), pp.S182-S183.
14. Rosenberg, G.M., Weiser, T.G., Maggio, P.M., Browder, T.D., Tennakoon, L., Spain, D.A. and Staudenmayer, K.L., 2018. The association between angioembolization and splenic salvage for isolated splenic injuries. *Journal of Surgical Research*, 229, pp.150-155.
15. Ferguson, Craig, and Jonathan Lewin. "BET 2: Is early chemical thromboprophylaxis safe in patients with blunt trauma solid organ injury (SOI) undergoing non-operative management (NOM)?" *Emerg Med J* 35, no. 2 (2018): 127-129.