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## Original Article

### Assessment Of 120 Cases Of Splenic Injury And Splenectomy

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#### ABSTRACT:

**Background:** The spleen is one of the most commonly injured intra-abdominal organs. The diagnosis and prompt management of potentially life-threatening hemorrhage is the primary goal. The present study was conducted to analyze the cases of splenectomy in study population. **Materials & Methods:** The present study was conducted in the department of general surgery on 120 patients of both genders. General information such as name, age, gender etc. was recorded. In all patients, causes of spleen injury were evaluated. **Results:** Out of 120 patients, males were 65 and females were 55. The difference was non-significant (P- 0.5). Age group 21-30 years had 9 males and 5 females, 31-40 years had 10 males and 12 females, 41- 50 years had 26 males and 18 females, >50 years had 20 males and 20 females. The difference was significant (P- 0.01). Common causes of spleen injury were blunt trauma (30), traffic accident (35), falling down (15), penetrating injury (25) and gunshot (15). The difference was significant (P- 0.01). **Conclusion:** Spleen is the delicate organ which is susceptible to injuries. The common causes are penetrating injuries, road accidents, falling down, gun shot etc.

**Key words:** Gunshot, Spleen, Trauma

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## INTRODUCTION

Hypersplenism is a clinical syndrome that is characterized by splenomegaly, a variable combination of anemia, leucopenia, and thrombocytopenia, compensatory bone marrow hyperplasia, reduced immunity, and improvement after splenectomy. The incidence of hypersplenism in patients with cirrhosis and portal hypertension is high.<sup>1</sup> The spleen is one of the most commonly injured intra-abdominal organs. The diagnosis and prompt management of potentially life-threatening hemorrhage is the primary goal. The preservation of functional splenic tissue is secondary and in selected patients it may be accomplished by using non-operative management or operative salvage techniques. Liver and spleen are the two most common organs that are injured following blunt abdominal trauma. Non-operative management of these injuries has evolved over the past two decades.<sup>2</sup> Only splenic injuries can be found in about one third of abdominal trauma and in 25–30% of patients who suffered a traffic accident. When the spleen is injured, blood

may be released into the abdomen and the amount of bleeding depends on the size of the injury. A hematoma of the spleen does not bleed into the abdomen at first but may rupture and bleed in the first few days after injury, although rupture sometimes does not occur for weeks or months. An injured or ruptured spleen can make the abdomen painful and tender. Blood in the abdomen acts as an irritant and causes pain.<sup>3</sup> The pain is in the left side of the abdomen just below the rib cage. Sometimes the pain is felt in the left shoulder. The abdominal muscles contract reflexively and feel rigid. If enough blood leaks out, blood pressure falls and people feel light-headed, have blurred vision and confusion, and lose consciousness.<sup>4</sup> The present study was conducted to analyze the cases of splenectomy in study population.

## MATERIALS & METHODS

The present study was conducted in the department of general surgery. It comprised of 120 patients of both

genders. All were informed regarding the study and written consent was obtained. Ethical clearance was obtained from institutional ethical committee.

General information such as name, age, gender etc. was recorded. In all patients, causes of spleen injury were evaluated. Results thus obtained were subjected to statistical analysis using chi- square test. P value less than 0.05 was considered significant.

**RESULTS**

**Table I Distribution of patients**

Total- 120	
Males	Females
65	55

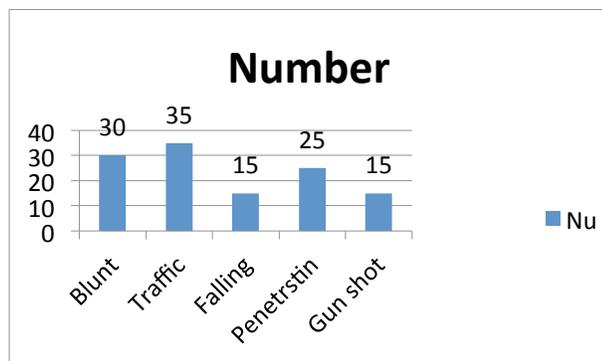
Table I shows that out of 120 patients, males were 65 and females were 55. The difference was non- significant (P- 0.5).

**Table II Age wise distribution of cases**

Age group (years)	Males	Females	P value
21-30	9	5	0.01
31-40	10	12	
41-50	26	18	
>50 years	20	20	
<b>Total</b>	65	55	

Table II shows that age group 21-30 years had 9 males and 5 females, 31-40 years had 10 males and 12 females, 41- 50 years had 26 males and 18 females, >50 years had 20 males and 20 females. The difference was significant (P- 0.01).

**Graph I Causes of spleen injury**



Graph I shows that common causes of spleen injury was blunt trauma (30), traffic accident (35), falling down (15), penetrating injury (25) and gunshot (15). The difference was significant (P- 0.01).

**DISCUSSION**

Splenectomy could be performed in elective or emergency settings and most of the time emergent splenectomy is life saving. Blunt and penetrating traumas are the most common reasons for splenectomy in the emergency setting. Hematological diseases especially ITP are the leading cause for elective splenectomy and it can be safely performed in these patients.<sup>5</sup> Traffic accidents are the leading cause for blunt traumas that require splenectomy, while stab wounds are the most common cause for penetrating injuries. Liangpunsakul et al<sup>6</sup> reported that 70% to 80% of cirrhotic patients with portal hypertension had different degrees of splenomegaly and hypersplenism. Hypersplenism has diverse treatments, including drug therapy; surgical splenectomy; percutaneous injections; thermal ablation, such as radiofrequency ablation, microwave ablation, and high-intensity focused ultrasound (HIFU); and even radiotherapy. Splenectomy is the traditional therapy of choice when patients with hypersplenism are symptomatic, with bleeding disorders or hemolytic anemia. Splenectomy can eliminate hypersplenism-induced blood cell destruction; it is effective in preventing hemorrhage from esophageal varices and in correcting thrombocytopenia; and it has been shown to decrease portal pressure and reverse hypersplenism.<sup>7</sup> A study by Amit et al<sup>8</sup> divided patients into four different groups: cases who have additional injuries in addition to splenic injury (group 1), cases who have no additional injuries other than splenic injuries (group 2), iatrogenic splenic injuries (group 3), elective splenectomies (group 4). These four groups were evaluated for demographic features, etiology, surgical procedure, duration of operation, morbidity and mortality parameters. Among 129 patients 58 were females (44.9%) and 71 were males (55.1%). Mean age was 49.5 (13-82). There were 23 patients in group I (17.9 %), 18 patients in group II (13.9%) , 10 patients in group III (7.7 % ) , 78 patients in group IV (60.5 %). In total, 123 patients were treated by conventional splenectomy and 6 patients were treated by laparoscopic splenectomy. In our study, out of 120 patients, males were 65 and females were 55. Age group 21-30 years had 9 males and 5 females, 31-40 years had 10 males and 12 females, 41- 50 years had 26 males and 18 females, >50 years had 20 males and 20 females. This is similar to Haas et al.<sup>9</sup> A study by Gupta et al<sup>10</sup>, a total of 69 patients with hypersplenism were treated with surgical splenectomy (n = 31), HIFU (n = 26), or partial splenic embolization (n = 12). They were followed closely for at least 6 months, and the effectiveness of the treatments was compared. Among the 3 groups, splenectomy was the most effective treatment for increasing peripheral blood cells. Embolization reduced the operating time and hospital stay, but HIFU was relatively safer and less invasive than the other treatments. High-intensity focused ultrasound has wide clinical indications for hypersplenism and may be safer than other treatment

methods. Therefore, it is a good alternative procedure for patients with a high surgical risk.

## CONCLUSION

Spleen is the delicate organ which is susceptible to injuries. The common cause are penetrating injuries, road accidents, falling down, gun shot etc.

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