

## Study of Total 25 Patients of Splenic Trauma

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### Abstract

Management of blunt injury to the spleen in adults has been applied with increasing frequency. The purpose of this multi-institutional study was to determine which factors predict successful observation of blunt splenic injury in adults. The spleen is the most frequently injured organ following blunt abdominal trauma. Prompt recognition and appropriate scoring of splenic injury is vital for preventing the potentially disastrous complication of hemorrhage and hypovolemic shock. However, due to the well-recognized risks for post-splenectomy sepsis, routine splenectomy for injury has given way to the practice of splenic salvage, utilizing techniques of splenorrhaphy (repair of splenic laceration or rupture with sutures), nonoperative management of solid organ injury, and angiography with embolization, either singularly or in combination. We used the American Association for the Surgery of Trauma Classification for splenic injury.

**Keywords:** Splenic injury; Classification.

### Background

Management of blunt injury to the spleen in adults has been applied with increasing frequency. The purpose of this multi-institutional study was to determine which factors predict successful observation of blunt splenic injury in adults. The

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### Methods

A total of 25 adults (>15 years of age) with blunt splenic injury were studied through JMF hospital, Dhule. Statistical analysis was performed with analysis of variance and extended  $\chi^2$  test. Data are expressed as mean  $\pm$  SD; a value of  $p < 0.05$  was considered significant. We used the American Association for the Surgery of Trauma Classification for splenic injury.

### Discussion

In this study, 48% of adults with blunt splenic injury went directly to laparotomy. Ultimately, 52% of patients were successfully managed nonoperatively; 15.38% failed and required laparotomy. Successful nonoperative management was associated with higher blood pressure and hematocrit, and less severe injury based on ISS, Glasgow Coma Scale, grade of splenic injury, and quantity of hemoperitoneum.

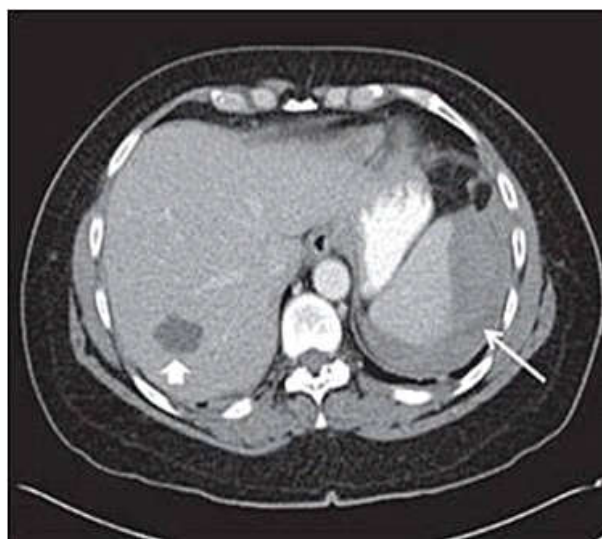
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Grade*	Injury type	Spleen injury scale (1994 revision)	
		Description of injury	ICD-9
I	Hematoma	Subcapsular, <10% surface area	865-01 865.11
	Laceration	Capsular tear, <1cm parenchymal depth	865.02 865.12
II	Hematoma	Subcapsular, 10%-50% surface area intraparenchymal, <5 cm in diameter	865.01 865.11
	Laceration	Capsular tear, 1-3cm parenchymal depth that does not involve a trabecular vessel	865.02 865.12
III	Hematoma	Subcapsular, >50% surface area or expanding; ruptured subcapsular or parenchymal hematoma; intraparenchymal hematoma ≥ 5 cm or expanding	
	Laceration	>3 cm parenchymal depth or involving trabecular vessels	865.03 865.13
IV	Laceration	Laceration involving segmental or hilar vessels producing major devascularization (>25% of spleen)	
V	Laceration	Completely shattered spleen	865.04
	Vascular	Hilar vascular injury with devascularizes spleen	865.14



Ct Scan Showing Splenic Injury

### Conclusion

A total of 48% of patients went directly to the operating room (group I); 52% of patients were admitted with planned nonoperative management. Of the patients admitted with planned observation, 15.38% failed and required laparotomy; 82.1% of patients with an Injury Severity Score (ISS) < 15 and 46.6% of patients with ISS > 15 were successfully observed. Frequency of immediate operation correlated with American Association for the Surgery of Trauma (AAST) grades of splenic injury: I (24%), II (20%), III (20%), IV (16%), and V (20%) ( $p < 0.05$ ). Of

patients were managed, out of which 0.33% operated cases failed and 15.38% cases non operative cases failed and required laparotomy. A total of 50% of the patients failed nonoperative management within 24 hours of admission; 50% failed 9 days or later after injury.

Laparotomy was ultimately performed in 12% of patients with small hemoperitoneum, 8% of patients with moderate hemoperitoneum, and 4% of patients with large hemoperitoneum. The authors suggest adherence to The American Association for the Surgery of Trauma Classification when reporting data on splenic injury in future studies, until new evidence forms a thorough classification system.

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