# ADVANCES IN THE DIAGNOSIS AND OPERATIVE MANAGEMENT OF TRAUMATIC SPLEEN INJURIES

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**Abstract:** *Traumatic injuries of the spleen continue to constitute a significant proportion of abdominal trauma cases, with a consistently high rate of emergency surgical interventions. Interest in this problem has intensified due to the established immunological role of the spleen and the growing need to preserve its function whenever possible. The present review summarizes diagnostic approaches and surgical tactics used in 27 patients treated for splenic trauma in 2021–2023, with an emphasis on practical aspects of determining the indications for organ-preserving surgery and splenectomy.*

## INTRODUCTION

The spleen remains one of the abdominal organs most vulnerable to blunt trauma. Its anatomical position, friable parenchyma and abundant vascularization contribute to the risk of life-threatening hemorrhage. Although non-operative and spleen-preserving methods have become more widely discussed in recent decades, the real possibility of their application in emergency practice is still determined by the severity of damage and the patient's condition at the time of admission.

### Materials and Methods

Twenty-seven patients with traumatic injury to the spleen were treated between 2021 and 2023. Among them were 18 men (66.7%) and 9 women (33.3%), aged 17 to 65 years. Most patients (about 85%) belonged to the 30–50-year age category, which corresponds to the group most frequently exposed to high-energy trauma.

Upon admission, all patients showed signs of internal bleeding of varying intensity. The diagnostic algorithm included a clinical examination, laboratory tests, ultrasound of the abdominal cavity, and, when necessary, plain radiography or diagnostic laparoscopy.

### Clinical Presentation

Symptoms at admission varied, especially in combined injuries. Pain in the left hypochondrium with irradiation to the left shoulder was recorded in all cases. Signs of hypovolemia were frequent: tachycardia, hypotension, pale skin. Peritoneal signs occurred in more severe injuries.

### Diagnostic Approaches

Ultrasound was performed in all cases and helped determine the extent of parenchymal damage and hemoperitoneum. Diagnostic laparoscopy was used in unclear situations, enabling direct visualization of the spleen and identification of active bleeding. Radiography served mainly to detect additional injuries.

Surgical Management

Splenectomy was required in 22 patients. Indications included damage to the splenic vascular pedicle, fragmentation of the organ, ruptures in the hilar region with uncontrollable bleeding, multiple abdominal injuries and traumatic peritonitis. Autologous blood reinfusion was used in several cases.

Organ-Preserving Surgery

Spleen-preserving interventions were possible in 5 patients: suturing small lacerations with omental patch reinforcement, electrocoagulation of limited lesions, and application of a hemostatic sponge. Organ preservation was feasible only in cases with moderate injury and stable hemostasis.

Discussion

Traumatic splenic injuries demand rapid assessment and clear prioritization. Ultrasound and diagnostic laparoscopy demonstrated the greatest diagnostic value. Although spleen-preserving surgery is desirable, its use remains limited by the severity of most injuries. Splenectomy continues to be the most reliable life-saving method in many cases.

Conclusion

Traumatic injury of the spleen remains a serious emergency requiring prompt diagnostics and individualized surgical tactics. Ultrasound and diagnostic laparoscopy play key roles in diagnosis, while splenectomy remains the most common surgical intervention in severe trauma. When feasible, organ-preserving methods should be preferred.

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