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Interventional Radiology in Splenic Trauma: If Not Now, Then When?

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Abstract

Introduction: The treatment of blunt splenic injuries showed major evolutionary changes, from fundamental/ basic splenectomy to nonoperative and endovascular treatment, "catheter surgery". Currently, in Trauma Centers, splenic angioembolization is considered the first-line intervention in trauma. This article presents the Bucharest Emergency Clinical Hospital experience in the use of splenic angioembolization, a therapeutic solution in accordance with contemporary practice and literature.

Methods: This retrospective study includes patients with splenic trauma by blunt mechanism, in which diagnostic / therapeutic angiography was performed, hospitalized in the Clinical Emergency Hospital Bucharest between January 2006 and December 2019. The main endpoints of the study were: post-traumatic mortality, the need for surgery (laparoscopic/classic) to resolve splenic bleeding, the number of days of hospitalization, the need for hospitalization for more than 1 day in the intensive care unit, the day when the platelet count began to increase, the evolution of laboratory parameters (hospitalization, preangiography, postangiography/embolization, discharge). A secondary endpoint of the study was the frequency of complications that did not require surgery.

Results: During the mentioned period in 64 patients treated nonoperatively, diagnostic angiography was performed (27 cases, group B) or therapeutic angiography (37 cases, group A). 26.56% of cases were ≥ 55 years old (55-81 years old), the predominance of males being obvious (62.5%). The mean value of the ISS was 21.7 ± 10.4, and 71.87% of cases presented ISS ≥ 16. The mean value of the ISS was 21.7 ± 10.4, and 71.87% of cases presented ISS ≥ 16. The degree of splenic injury (American Association for the Surgery of Trauma-Organ Injury Scale) presented the mean value 2.95. The degree of splenic lesion was statistically significantly more severe in group A ($p < 0.001$) and preangiographyhemoglobin values were significantly lower compared to hospitalization values ($p < 0.001$) indicating the persistence of hemorrhage. Procedural failures occurred in 4.68% of cases, with zero mortality.

Conclusions: Splenic interventional radiology is a safe, effective and rational procedure. The development of therapeutic protocols is necessary to allow maximum use of this procedure.

Key words: nonoperative treatment, interventional radiology, blunt splenic injury