

Authors: Serena Musetti, Andrea Berlucchi, Ismail Cengeli, Massimo Chiarugi, Luigi Cobuccio, Camilla Cremonini, Rita Fantacci, Christian Galatioto, Martina Picchi, Dario Tartaglia

Non-Operative Management for Blunt Splenic Trauma: Failure Should Not Be Taken Lightly

Background: The management of stable hemodynamic patients with blunt splenic trauma (BST) has considerably shifted towards non-operative management (NOM) in the last few decades. NOM ranges from observation alone with monitoring, to splenic angio-embolization (SAE). However it has been reported that around a 15% of NOM fails and requires surgery.

Aim: Aim of this study was to analyse the rate of NOM failure in the management of blunt splenic trauma and the outcome of patients undergone rescue surgery.

Methods: We reviewed the chart of patients admitted to Emergency Room for BST during the period 2010-2018. Trauma management required a multidisciplinary approach. Patients hemodynamical unstable not responder to intravenous fluid administration with positive ultrasound underwent directly surgery. All hemodynamical stable patients had a CT scan. The presence of contrast blush /pseudoaneurysms or the evidence of an Organ Injury Score (OIS) of IV-V represented indications for splenic angioembolization.

Results: We analysed 155 patients with BST. An emergency splenectomy was performed in 45 patients (29%). The remaining 110 patients (71%) underwent NOM: 43 (39%) underwent SAE. SAE included 14 proximal, 20 distal and 9 combined arterial embolization. Six out of 67 patients (9%) treated with observation, eventually required SAE for evidence of pseudoaneurysms at the imaging follow-up. NOM failure requiring splenectomy occurred in 9 patients, all undergone SAE (9/110, 8.1%). Of these, four developed early post-procedure hemodynamic instability due to bleeding and rupture of pseudoaneurysms. The remaining 5 patients (3 proximal and 2 distal SAE) presented sepsis caused by a splenic abscess after a mean of 14 days (range 7-21). Death occurred in two patients (22%): both of them had post-SAE splenic abscess.

Discussion: We found a rate of NOM failure requiring splenectomy is lower than reported in the literature, however the occurrence of SAE could lead to serious complications. Strict monitoring after SAE is mandatory in order to early recognize a condition of hemodynamical instability and later signs of sepsis caused by splenic abscess.