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# Conservative Treatment of a Huge Splenic Abscess in A Giant Hepatic Artery Aneurysm

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**Keywords:**

Conservative management; Hepatic aneurysm; Percutaneous drainage; Splenic abscess

## 1. Abstract

A 31- year-old puerperal female presented to the emergency department with sudden onset of abdominal pain and fever for two days. Blood tests revealed raising indexes of inflammation. After an Ultrasound (US), the computed tomography scan showed a giant aneurysmatic saccular dilation of the common hepatic artery (45 x 38 x 42 mm) with a thrombotic apposition, an irregular saccular aneurysmal dilation (17 mm) in the proximal section of the ileocolic artery and multiple fluid hypodense areas in spleen (the most voluminous at the upper pole with a greater axis of 105mm). In her recently history, there was an appendicitis-like pain treated conservatively. Firstly, bigger aneurysmatic lesion was embolized. After 9 days it was embolized also ileocolic one. Septic endocarditis was suspected related to Duke's Criteria and a congenital valve malformation. Patient stayed in infectious disease department and continued antibiotic therapy until a new CT revealed a big splenic abscess. She underwent several instrumental checks. It has been placed, through abdominal US, a pig tail in the largest collection. After a week pig tail was changed because of low tribute. After 4 days pig tail has been removed. Patient continued intravenous antibiotic for other ten days at the end of which she was discharged, 14 days after procedure, with oral antibiotic therapy. She did not experience any symptoms recurrence and no septic status up to 3 months later. Splenic abscesses may be related to heart valve defects. Endocarditis may seed septic emboli. If detected emboli at the splenic level, the treatment can be conservative by US percutaneous drainage, bypassing the splenectomy. If promptly treated, resection may be avoided.

## 2. Introduction

Splenic abscess should be considered in a patient with fever, left upper abdominal pain, and leucocytosis. It is a septic collection which occurs after haematogenous spread or local dissemination of bacteria. Splenic abscess is an uncommon and rare condition (incidence between 0,14 and 0,7%), more frequently affecting male and immunocompromised patients who have an increased incidence and which constitute 26-50 % of cases [1]. There are no guidelines regarding its diagnosis and management. Gold standard for the diagnosis is the CT scan [2]. Splenic collections, if untreated, have a mortality of about 70% of cases (vs 1% if properly treated) [3].

## 3. Case Report

A 31- year-old puerperal female presented to the emergency department with sudden onset of abdominal pain and evening- fever for two days. Her past medical history included mitral prolapse and two pregnancies. Blood tests revealed raising indexes of inflammation. She reported a recent conservatively treated episode of appendicitis. After an US, a computed tomography scan showed a giant aneurysmatic saccular dilation of the common hepatic artery (45 x 38 x 42 mm) with thrombotic apposition (Figure 1), an irregular saccular aneurysmal dilation (17 mm) in the proximal section of the ileocolic artery and multiple fluid hypodense areas in spleen (the most voluminous at the upper pole with a greater axis of 105mm) (Figure 2). Firstly, bigger aneurysmatic lesion was embolized. After 9 days it was embolized also ileocolic one (Figure 3). Through Duke's criteria it was diagnosed an endocarditis. A splenic abscess due to septic emboli (resulting from poorly treated appendicitis during pregnancy) was suspected. Patient received parenteral broad-spectrum antibiotic therapy. Using US, a pig tail 6 FR was positioned within the purulent splenic collection (Figure 4). Procedure safely completed without complications. Drains were removed and changed after 7 days: a second pig tail stayed in place for more 4 days. It is drained about 1 L of pus. Post-operative

course was uneventful: daily abdominal US were performed. The patient was discharged 14 days after US drainage with per os antibiotic. She did not experience any symptom recurrence on the last follow-up visit 3 months later. CT scan after 3 months describes a small 2x3 cm collection with no clinical significance (Figure 5).

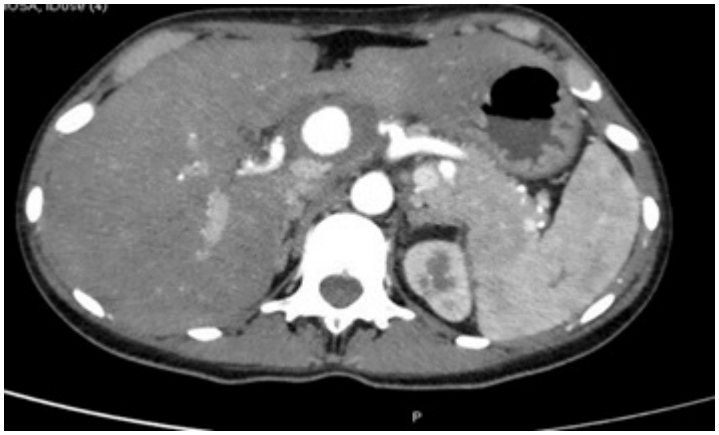

**Figure 1:** Voluminous saccular aneurysmatic dilatation of the common hepatic artery of 45 x 38 x 42 mm with circumferential thrombotic apposition with a greater thickness of 15 mm and basal hyperdensity of the innermost labrum, with true lumen of 25 x 20 x 41 mm.Arterial phase.

**Figure 2:** Splenic abscess, arterial phase.

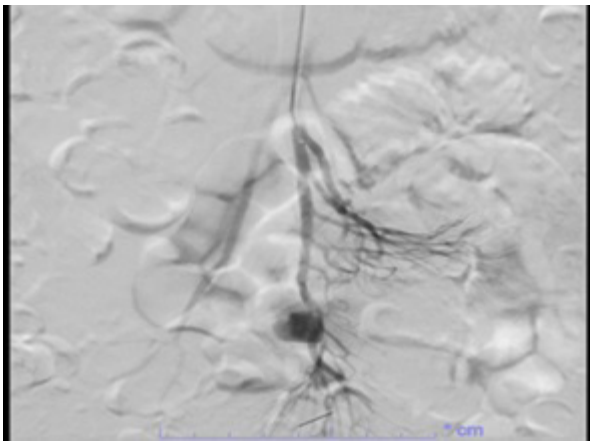

**Figure 3:** Distal aneurysm of the ileocolic artery. Embolization with non-magnetic metal coils.

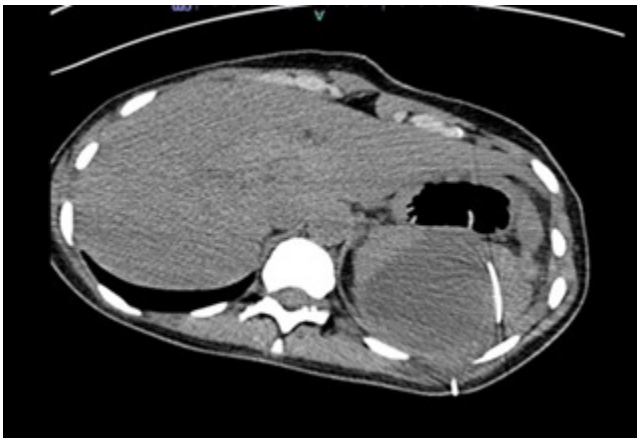

**Figure 4:** Percutaneous drainage of splenic abscess.

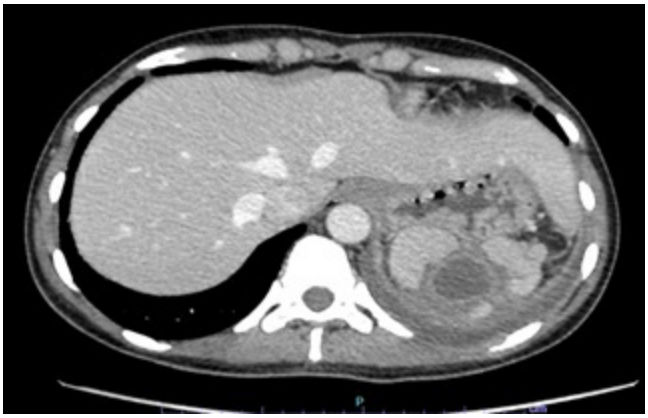

**Figure 5:** Residual splenic collection, 3 months later the conservative management.

## 4. Discussion

Splenic abscess is defined as a septic collection and it is a potentially life-threatening disease: generally, occurs in patients with valve malformations, neoplasia, immunodeficiency, hemoglobinopathies, trauma, metastatic infection, splenic infarction and diabetes.

Septic emboli associated with infectious endocarditis can result in splenic abscesses and intracranic infectious: patients with high white blood cells level and large valve vegetations require CT imaging of the spleen [4]. Splenectomy has seemed to be the gold standard treatment for splenic abscess, however, burdened by high morbidity rate related clinical conditions of the patient. It determins a shorter hospitalization; it is a definitive treatment. At the same time, splenectomy gives an immune deficiency and exposes to serious infections, requires open surgery in most cases. The surgical procedure, open or laparoscopic, is burned by sepsis post splenectomy in 12% of cases with a related mortality of 50-70% [5]. Percutaneous drainage is an indicated, safe and feasible procedure for uniloculated or biloculated abscesses. It is useful to avoid a general anaesthesia, it is indicated to prevent the traumatic broken of the collection and to preserve the immune system [6]. Combined with a prolonged antibiotic therapy it is a practical procedure that allows you to sample the liquid to obtain a targeted antibiogram. On the other side forces to periodic vaccinations. It is a reliable technique with a high rate of therapeutical success and low costs compared to surgery. Placement of a drainage has achieved excellent results with resolution of the disease in a high percentage of cases with low morbidity and negligible mortality [7]. Other advantages include avoiding risks of intra-abdominal spillage and perioperative complications and saving time, along with a better patient compliance and an easier nursing care. Ferraioli et al. describes 16 successful cases of splenic abscess treated by percutaneous US-guided drainage [8]. Moreover, the procedure can be used as a bridge to surgery in patients who are critically ill [9]. Multiloculated or complex pyogenic splenic abscesses, on the other side, should usually be treated using operative intervention [10]. Like in our case report, Rerbakken et all described an haematogenous seeding, from an infection in a distant site (endocarditis), to the spleen [11]. Literature on the management of splenic abscesses appears aged and fragmentary; it was very flourishing in the 80s and 90s: this is due to an improvement in radiological techniques and an increase in cases of immunosuppression [3].

## 5. Conclusion

Mentioned studies are low in population and not randomized or stratified: these are an important bias in literature.

Our case reflected the long-term course of a conservatively treated complex patient: combined antibiotic therapy and percutaneous drainage give a chance of spleen preservation and the outcome of patient is in agreement with the literature.

## References


1. Davido B, Dinh A, Rouveix E, Crenn P, Hanslik T, et al. [Splenic abscesses: From diagnosis to therapy]. Rev Med Interne. 2017; 38: 614-618.
2. Krestin GP, Beyer D, Steinbrich W. [Efficient procedure for diagnosing abdominal abscesses using imaging technics]. Rofo. 1984; 141: 673-677.
3. Lotfollahzadeh S, Mathew G, Zemaitis MR. Splenic Abscess. In: StatPearls. Treasure Island (FL): StatPearls Publishing. 2022.
4. Aalaei-Andabili SH, Martin T, Hess P, Hoh B, Anderson M, et al. Management of Septic emboli in patients with infectious endocarditis. J Card Surg. 2017; 32: 274-280.
5. Spaziani E, Filippo AR, Picchio M, Pietricola G, Ceci F, et al. [A rare cause of acute abdomen: splenic infarction. Case report and review of the literature]. Il Giornale di chirurgia. 2010; 31: 397-399.
6. Conzo G, Docimo G, Palazzo A, Della Pietra C, Stanzione F, et al. The role of percutaneous US-guided drainage in the treatment of splenic abscess. Case report and review of the literature. Ann Ital Chir. 2012; 83: 433-436.
7. Divyashree S, Gupta N. Splenic Abscess in Immunocompetent Patients Managed Primarily without Splenectomy: A Series of 7 Cases. Perm J. 2017; 21: 16-139.
8. Ferraioli G, Brunetti E, Gulizia R, Mariani G, Marone P, et al. Management of splenic abscess: report on 16 cases from a single center. Int J Infect Dis. 2009; 13: 524-530.
9. Bagrodia N, Button AM, Spanheimer PM, Belding-Schmitt ME, Rosenstein LJ, et al. Morbidity and Mortality Following Elective Splenectomy for Benign and Malignant Hematologic Conditions: Analysis of the American College of Surgeons National Surgical Quality Improvement Program Data. JAMA Surgery. 2014; 149: 1022-1029.
10. Gleich S, Wolin DA, Herbsman H. A review of percutaneous drainage in splenic abscess. Surg Gynecol Obstet. 1988; 167: 211-216.
11. Rerbakken G, Schulz T, Swensen T. Splenic abscess. Diagnosis and treatment. Tidsskr Nor Laegeforen. 1997; 117: 1908-1910.