

# Spontaneous Splenic Rupture Case Report

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## Abstract

A spontaneous splenic rupture is a rare entity. The classic treatment remains splenectomy but several recent works has highlighted the value of conservative treatment. We report the case of a young man who had a spontaneous spleen rupture in association with idiopathic thrombocytopenia purpura and who benefited from a conservative treatment.

**Keywords:** Spontaneous• Rupture• Spleen

## Introduction

Spontaneous splenic rupture is a rare complication of many viral and parasitic infections [1]. The prognosis is linked to the speed of diagnostic support [2] that can occur on a normal or pathological spleen [3]. Non-traumatic causes such as infectious diseases, hematological diseases and cancers are the most described [4]. We report in this work a case of spontaneous spleen rupture in association with idiopathic thrombocytopenia purpura through this observation and a review of the literature we try to raise the epidemiological, clinical and therapeutic aspects of this entity.

## Observation

We present a male of 45 years old followed for idiopathic thrombocytopenic purpura under corticosteroid therapy 5 years before. He presented in the emergency with left upper quadrant pain and nausea.

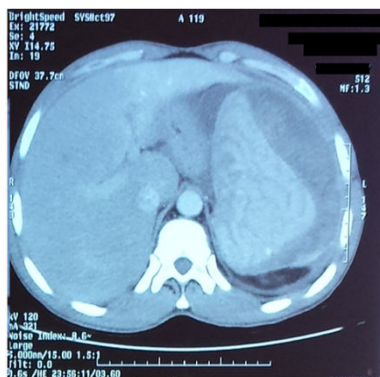


Figure 1. Splenic hematoma.

There was no history of trauma. On initial assessment, he was hemodynamically stable but having pallor facies. The abdomen examination found a sensibility in the left upper quadrant. Baseline investigations showed hemoglobin of 7.9 g/dl. A contrast-enhanced CT scan revealed an enlarged spleen with hematoma (Figure 1). The patient was transfused with 2 blood

cells. A clinical and CT scan monitoring was established. The patient went out on the 14<sup>th</sup> day. A CT scan carried out in the sixth month showed the disappearance of the hematoma.

## Discussion

Spontaneous rupture of the spleen is a rare entity and is almost always associated with underlying splenic pathology [1]. It can occur in 0.1% to 0.5% of patients without associated trauma [5]. The first cases of spontaneous splenic rupture were described by Rokitansky [6] and Atkinson [7]. Mortality is relatively low when an underlying etiology is absent but can be as high as 12.2% when caused by an underlying disease [8].

The causes are dominated by infectious and hematological diseases which represent more than half of the cases. Infectious causes (30%) are generally represented by Infectious mononucleosis and malaria, while hematological causes (27%) are mainly represented by malignant hemopathies. Other causes are much rarer: solid or benign tumors of the frequency (11%), digestive pathologies (pancreatitis, portal hypertension) (10%), rheumatological causes (4%) and renal failure at the stage of dialysis (3%). In almost 5% of the cases, no etiology and no notion of trauma are found [4]. In our case, the association of idiopathic thrombocytopenia purpura and spontaneous spleen rupture was the main cause.

The mechanism can be explained by inducing swelling of the spleen due to hyperplasia of the pulp and hyperemia of the sinus and mantle plexus [9].

The diagnosis of splenic rupture is difficult, the lack of specificity of the symptoms which can make discuss other surgical emergencies [2].

The most common symptom is left upper quadrant abdominal pain. This pain can become generalized, with distention, tenderness, and rigidity in later stages. The abdominal symptoms may be accompanied by pallor, tachycardia, hypotension and oliguria. Eventually, more than half of the patients will suffer a hemorrhagic shock if the condition is left untreated [10,11].

The positive diagnosis is most often based on imaging data collected by ultrasound or abdominal computed tomography. Ultrasound allows rapid

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diagnosis with a sensitivity of 70% [12]. CT imaging has a sensitivity and specificity of at least 95% [13].

Hemodynamically stable patients with non-traumatic splenic rupture are normally treated conservatively, while patients with active bleeding or shock usually require an operation, according to the guidelines of the Eastern Association of Surgery of Trauma (EAST) [14].

Splenectomy is a radical treatment. Nevertheless, the morbidity of splenectomy, the improvement of surgical techniques and intensive care as well as the role of the spleen in the immune response we authorize to offer a conservative treatment. This seems to be an alternative subject to certain conditions: hemodynamic stability, recourse to transfusion of less than 2 blood cells, regular daily and biological clinical monitoring, rest and hospitalization in a department close to a surgical center [2]. Several studies have shown that a conservative attitude could be considered in approximately 60% of patients with closed trauma to the spleen. In this patient group, the failure rate of the conservative treatment was about 8 to 10% [15-20]. The indications for non-operative management risk-free and success rates expected from conservative treatment splenic trauma is however still subject to discussion.

## Conclusion

Spontaneous rupture of the spleen is a rare entity. The diagnosis is difficult. CT scan allows diagnosis, the treatment is conservative for the stable patient and surgical for chocked one.

## Conflicts of Interest

The authors do not declare any conflict of interest.

## Author Contributions

All the authors testified to the care of the patient and the writing of the manuscript. The authors have read and approved the final version of the manuscript.

## References

- Me, Lieberman, and A Levit. "Spontaneous Rupture of the Spleen." *Am J Emerg Med* 7 (1989): 28-31.
- Rapp, C, T Debord, P Imbert, O Lambotte, and R Roué. "Ruptured Spleen During Infectious Diseases: Splenectomy or Conservative Treatment? About Three Cases." *Rev Med Interne* 23 (2002): 85-91.
- Farley, R David, Scott P Zietlow, Michael P Bannon, and Michael B Farnell. "Spontaneous Rupture of the Spleen due to Infectious Mononucleosis." *Mayo Clinic Proceed* 67 (1992): 846-853.
- Kianmanesh, R, HI Aguirre, F Enjaume, A Valverde, and O Brugjère, et al. "Non-Traumatic Ruptures of the Spleen: Three New Cases and Review of the Literature." *Ann Surg* 128 (2003): 303-309.
- Lai PK. "Infectious Mononucleosis: Recognition and Management." *Hosp Pract* 12 (1977): 47-52.
- Laseter, Timothy, and Tamara McReynolds. "Spontaneous Splenic Rupture." *Mil Med* 169 (2004): 673-674.
- Badenoch, DF, HD Maurice, and OJ Gilmore. "Spontaneous Rupture of a Normal Spleen." *J R Coll of Surg Edinb* 30 (1985): 326-327.
- Renzulli, Pietro, A Hostettler, AM Schoepfer, and Beat Gloor, et al. "Systematic Review of Atraumatic Splenic Rupture." *British J Surg* 96 (2009): 1114-1121.
- Gorg, C, J Colle, K Gorg, and H Prinz, et al. "Spontaneous Rupture of the Spleen: Ultrasound Patterns, Diagnosis and Follow-Up." *British J Radiol* 76 (2003): 704-711.
- Denehy, THAD, E William McGrath, and James L Breen. "Splenic Torsion and Rupture in Pregnancy." *Obstet Gynecol Sur* 43 (1988): 123-131.
- Toubia, Nagib T, Maroun M Tawk, Robyn M Potts, and Gary T Kinasewitz. "Cough and Spontaneous Rupture of a Normal Spleen." *Chest* 128 (2005): 1884-1886.
- Shackford, Steven R, and Melinda Molin. "Management of Splenic Injuries." *Surg Clin North Amer* 70 (1990): 595-620.
- Jeffrey, R Brooke, Faye C Laing, Michael P Federle, and PC Goodman. "Computed Tomography of Splenic Trauma." *Radiol* 141 (1981): 729-732.
- Stassen, Nicole A, Indermeet Bhullar, Julius D Cheng, and Marie L Crandall, et al. "Selective Nonoperative Management of Blunt Splenic Injury: An Eastern Association for the Surgery of Trauma Practice Management Guideline." *J Trauma Acute Care Surg* 73 (2012): S294-S300.
- Brasel, Karen J, Christine M DeLisle, Christine J Olson, and David C Borgstrom. "Splenic Injury: Trends in Evaluation and Management." *J Trauma Acute Care Surg* 44 (1998): 283-286.
- Powell, Melissa, Anita Courcoulas, Mary Gardner, and James Lynch, et al. "Management of Blunt Splenic Trauma: Significant Differences between Adults and Children." *Surg* 122 (1997): 654-660.
- Konstantakos, Anastasios K, Anita L Barnoski, Brian R Plaisier, and Charles J Yowler, et al. "Optimizing the Management of Blunt Splenic Injury in Adults and Children." *Surg* 126 (1999): 805-813.
- Cocanour, Christine S, Frederick A Moore, Drue N Ware, and Robert G Marvin, et al. "Delayed Complications of Nonoperative Management of Blunt Adult Splenic Trauma." *Arch Surg* 133 (1998): 619-625.
- Nix, Jeffrey A, Michael Costanza, Brian J Daley, and Melissa A Powell, et al. "Outcome of the Current Management of Splenic Injuries." *J Trauma Acute Care Surg* 50 (2001): 835-842.
- Peitzman, Andrew B, Brian Heil, Louis Rivera, and Michael B, et al. "Blunt Splenic Injury in Adults: Multi-Institutional Study of the Eastern Association for the Surgery of Trauma." *J Trauma Acute Care Surg* 49 (2000): 177-189.

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