

## CONTINUING MEDICAL EDUCATION ΣΥΝΕΧΙΖΟΜΕΝΗ ΙΑΤΡΙΚΗ ΕΚΠΑΙΔΕΥΣΗ

### Vascular Diseases Quiz – Case 47

A 55-year-old female presented with upper left abdominal pain with sudden onset. Her abdomen was distended, blood pressure was 100/50 mmHg, and pulse was 105 bpm. The patient described that the abdominal pain started suddenly, slowly worsened and then pain was once more very acute like a second “stabbing”. After that she felt very ill and her whole abdomen became tender. Her past medical history was free and she had five normal pregnancies in the past.

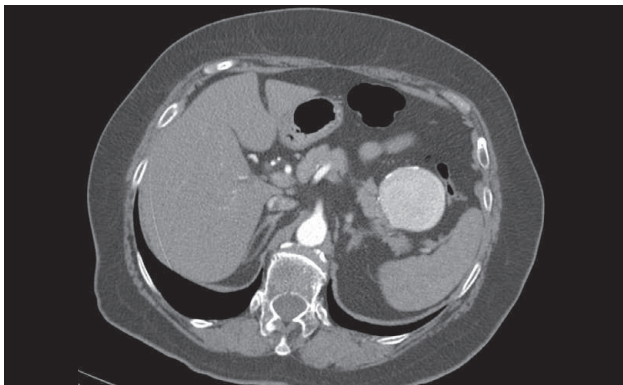
Laboratory tests showed low hemoglobin levels. A few hours later, emergency computed tomographic angiography (CTA) was performed as her status deteriorated and became unstable.

1. What is a possible vascular diagnosis?
2. What is this “double stabbing” symptom called and what is the mechanism behind it?

#### Comment

*Splenic artery aneurysms (SAAs) are the most common of the splanchnic aneurysms, accounting for approximately 60% of the latter. During autopsy, their overall incidence is 0.01% and their incidence in those older than 60 years is 10%. SAAs are more common in women (4:1) and they usually occur in patients with a mean age of 52 years. Female gender, multipartum (approximately >4.5 pregnancies) and portal hypertension are risk factors for the development of SAAs. History of pancreatitis also supports the diagnosis of SAA. The clinical importance of SAAs is great as they have a significant tendency to rupture.*

*Clinical findings are often scarce, with an abdominal bruit present in some patients. Larger SAAs could very rarely produce vague symptoms as they compress adjacent structures. Ruptured SAAs produce acute*



**Figure 1.** Computed tomographic angiography (CTA) scan showing a large splenic artery aneurysm.

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**N. Patelis, C. Klonaris**

*First Department of Surgery, Vascular Unit, “Laiko” General Hospital, Medical School, National and Kapodistrian University of Athens, Athens, Greece*

*upper left side abdominal pain, abdominal distension and shock. SAAs may rupture into the gastrointestinal tract, the pancreatic ducts, or the splenic vein. Abdominal x-ray may show an atherosclerotic ring in the upper left abdomen. CTA is the modality of choice for proper diagnosis. The overall mortality of ruptured SAAs is as high as 25%.*

*Ruptured SAAs require urgent repair. Surgical management includes the distal and proximal ligation of the splenic artery for lesions located in the proximal or middle portion of the splenic artery. For more distal lesions, splenectomy has been the most commonly performed operation. Endovascular exclusion ruptured SAAs include coil embolization of the splenic artery both proximal and distal to the aneurysm, embolization of a saccular aneurysm sac with coils or cyanoacrylate glue, and stent-grafting for saccular lesions of the mid splenic artery.*

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*Corresponding author:*

C. Klonaris, First Department of Surgery, Vascular Unit, “Laiko” General Hospital, Medical School, National and Kapodistrian University of Athens, 115 27 Athens, Greece  
e-mail: chris\_klonaris@yahoo.com

**Answers:**  
1. Rupture of splenic artery aneurysm  
2. This symptom, called “double penetration” phenomenon, is caused by the aneurysm rupturing into the lesser sac, where it is contained for a period of time of up to 48 hours. As pressure within the lesser sac rises, free intraperitoneal hemorrhage occurs causing the second rupture symptom. “Double penetration” phenomenon occurs in 20–30% of ruptured splenic artery aneurysm cases.  
**Diagnosis:** Rupture of splenic artery aneurysm