

A Case of Splenic Artery Aneurysm Presenting With Intra-Abdominal Bleeding

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ABSTRACT

Visceral artery aneurysms are rare pathologies. Splenic Artery Aneurysms (SAA) are the most common visceral artery aneurysms accounting for 60% to 71% of them, with an incidence of 0.7% in the normal population, even though rates as high as 10% have been found on necropsy studies. This aneurysm has a risk of rupture resulting in death. It can be overlooked (missed) on the imaging modalities when it is thrombosed. Here, we present a case of splenic artery aneurysm, which could be diagnosed with repetitive computed tomography (CT) examinations because it was partially thrombosed and overlooked in the 1st CT. The aneurysm was treated with blind embolization in correlation with CT.

Keywords: Splenic artery aneurysm, thrombosis, rupture, computed tomography

İNTRABDOMİNAL KANAMA İLE ORTAYA ÇIKAN BİR SPLENİK ARTER ANEVİZMASI OLGUSU

ÖZET

Visseral arter anevrizmaları nadirdir. Splenik arter anevrizmaları en sık görülen visseral arter anevrizmalarıdır. Ruptür ve ölümcül kanama riski taşırlar. Tromboze olduklarında görüntüleme metodları ile gözden kaçabilirler. Bu yazıda batın içi kanama ile prezente olan, tromboze olması nedeniyle ancak tekrarlayan bilgisayarlı tomografi (BT) incelemelerde saptanabilen ve anjiyografik incelemede yine tromboze olması nedeniyle tespit edilemeyen splenik arter anevrizmasının, BT ile korele olarak körlemesine embolizasyon ile tedavi edilmesini sunmayı amaçladık.

Anahtar sözcükler: Splenik arter anevrizması, tromboz, ruptür, bilgisayarlı tomografi

Visceral artery aneurysms are usually rare pathologies, and among these Splenic Artery Aneurysms (SAA) They are the most common (1,2). They are usually asymptomatic.; however, due to the risk of rupture and fatal bleeding, early diagnosis and treatment is essential. Typical clinical presentation of a ruptured SAA includes abdominal pain and hemodynamic instability. Here, we present a case of splenic artery aneurysm, which could have been diagnosed with repetitive computed tomography (CT) examinations because due to the fact that it was thrombosed. The aneurysm was treated with blind embolization in correlation with CT.

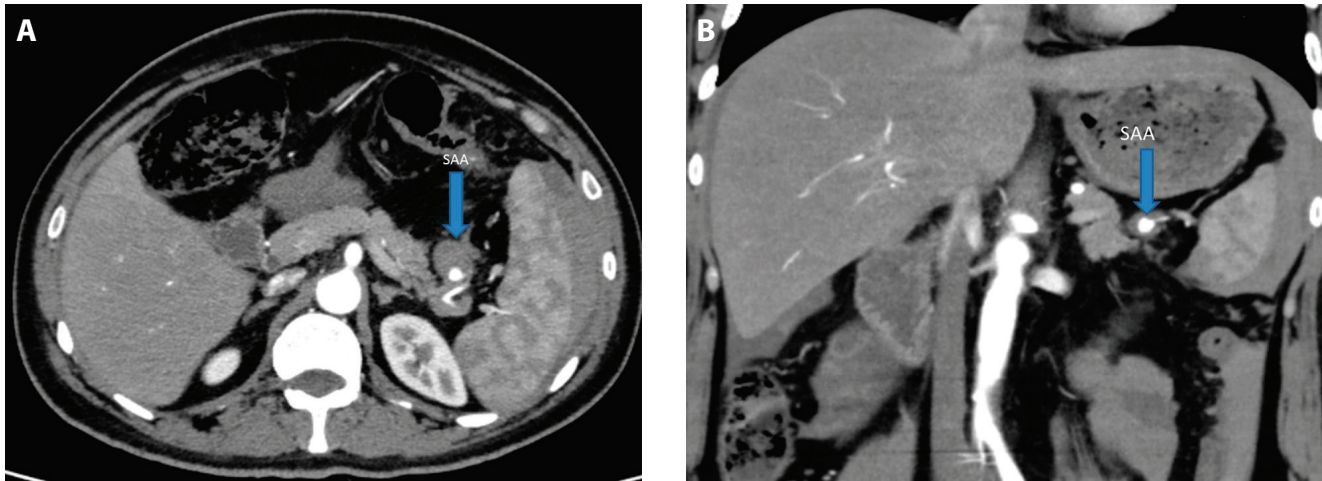


Figure 1 A-B. Axial (A) and coronal (B) contrast-enhanced CT images reveal a partially thrombosed pseudoaneurysm in the distal segment of the splenic artery.

Case report

A previously healthy 38-year-old male presented to the emergency department with left sided abdominal pain. No significant past history of medical illness was stated. The patient had a pulse rate of 125/min. and blood pressure of 80/65 mm Hg. Hemoglobin level was 10 gm/dL, and liver function tests were normal. Ultrasonography (US) examination revealed free fluid in the abdomen. Triphasic, contrast enhanced multidetector multidetector CT (MDCT) of abdomen and pelvis was performed with a 256 slice scanner (Brilliance iCT; Philips Healthcare, Cleveland, OH). In that examination, the free abdominal fluid had high density and was accepted as hemoperitoneum. No source of bleeding could have been identified with CT. The patient was treated with Ringer's lactate solution (2000 cc) and iron preparations (100 mg/per day) intravenously, for 3 days. No significant decrease was noted of the Hbg levels in the 3 day-period. After treatment, blood pressure and pulse rate were in the normal levels. The follow-up abdominal US was also normal. The patient was discharged from the hospital since his condition was stable. 15 days later, the patient presented with left sided abdominal pain once more. Triphasic, contrast enhanced CT examination was repeated and in this 2nd examination, a partially thrombosed pseudoaneurysm was noted in the distal segment of the lower pole splenic artery. It was 2 cm in diameter; the contrast filled part of the aneurysm was 7 mm and the remaining part was thrombosed (Figure 1 a-b). There was also high density intra-abdominal free fluid. When the previous CT was evaluated retrospectively, a totally thrombosed small aneurysm could barely have been perceptible in this localization. It was assumed that the imaging findings became clearer or distinct because of recurrent thrombosis. 2 days after the

2nd CT scan, celiac artery and selective splenic artery angiography was performed. The aneurysm could not have been visualized since it was totally thrombosed again. The polar artery feeding the lower pole of the splenic artery was embolised with glue injection blindly, with the aid of a microcatheter, in correlation with the location in CT using CT to locate the aneurysm. 3 days later, control abdominal CT-Angiography (CTA) revealed that the lower pole splenic artery and its branches were embolized and the pseudoaneurysm was totally thrombosed. Infarct sites were noted in the lower pole of the spleen due to the procedure. Intra-abdominal bleeding had regressed remarkably. Follow-up in 1 year revealed no aneurysm re-occurrence.

Discussion

Visceral artery aneurysms are rare; however, they are important to recognize due to the possibility of rupture. Among these, SAA are the most common one (1,2). It has an incidence rate of 0.7%; however, on necropsy studies rates are as high as 10% have been reported (3). Atherosclerosis, portal hypertension, chronic liver disease, ischemia, and fibromuscular dysplasia are included in the risk factors (2,4). Asymptomatic cases can be detected incidentally during diagnostic imaging performed for other indications (5). The most important complication is rupture. It can be asymptomatic and it can be the only and initial symptom. The reported rate of rupture is 2–9%, with an associated mortality of 36% (6). The risk for rupture reaches 50% in pregnant patients. When the diameter of the aneurysm exceeds 2 cm, likelihood of a rupture increases (7). The physical signs of a rupture most often include sudden and intense abdominal pain, most commonly in the left upper quadrant or epigastrium. Nausea

and vomiting can also accompany the pain. In our case, the patient presented to the emergency department with left upper quadrant abdominal pain. It is possible to establish a diagnosis with US, CT, and angiography. However, as in our case, it can be difficult to diagnose if the aneurysm is thrombosed.

It is not recommended to treat small and asymptomatic aneurysms. Treatment options for aneurysms with a diameter larger than 2 cm and all symptomatic cases are

surgical interventions, transcatheter embolization or laparoscopic ligation (8).

In conclusion, splenic artery aneurysm rupture is a challenging diagnosis and needs to be considered in patients presenting with abdominal pain and intra-abdominal bleeding. The need for repetitive and multi-modality radiologic work-up should be in mind on account of thrombosis. Blind embolization can be used in correlation with CT in thrombosed aneurysms.

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