

Case Report

An acute abdomen due to torsion of an accessory spleen: a case report

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Received: 10 March 2025

Accepted: 26 March 2025

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ABSTRACT

Torsion of accessory splenic is a rare cause of acute abdomen that usually presents diagnostic challenges. This report presents a case of a 35-year-old diabetic male who was diagnosed with torsion of an accessory spleen (AS) on contrast enhanced CT scan and managed conservatively.

Keywords: Accessory spleen, Torsion, Acute abdomen, Relapse, Fat-stranding, Swirl sign

INTRODUCTION

The spleen is a significant component of the hematologic and reticuloendothelial systems. It is intraperitoneal, being normally located in the left upper quadrant of the abdomen, inferior to the left diaphragmatic dome and lateral to the stomach.¹ There are various congenital anomalies associated with the spleen, and an AS (synonym: supernumerary spleen, splenule) is one such abnormality, where some functional splenic tissue is located separately outside the orthotic spleen. AS forms because of the failure of mesenchyme fusion in the dorsal mesogastrium in the fifth week of embryonic life.^{1,2}

AS may be solitary or multiple, are found in about 10-30% of the population, often located in the left upper quadrant near the splenic hilum but may also appear in the gastrocolic ligament, mesocolon, greater omentum, pancreas, or rarely the mediastinum.³ These ASs may be separate or else attached to the orthotopic spleen by a fibrous band.

Patients range in age from infants to the elderly, with children accounting for most cases. Histologically, AS is identical to the orthotic spleen and ranges from 2 to 4 centimeters, though rare cases of bigger AS have been reported in literature.⁴ AS is supplied by branches of the

splenic artery, and its torsion is a rare cause of acute abdomen. This report presents the clinical presentation, diagnosis, and management of a 35-year-old male with torsion of an AS and is reported due to its rarity.

CASE REPORT

A 34-year-old man, a construction worker by profession, presented with pain in the upper abdomen and back for about three hours. Pain was constant, scoring about 6/10 on the visual analogue scale (VAS), and was associated with nausea. He was a known case of type 1 diabetes mellitus (T1DM) and hypothyroidism, controlled by insulin and thyroxine, respectively. On examination, hemodynamics was stable, and the abdomen was soft, non-tender, and of normal contour. Blood works including complete blood counts, liver function tests, kidney function tests, serum amylase, blood sugar and serum electrolytes were within normal level. A contrast-enhanced CT scan (Figure 1 A-B) revealed a small subphrenic AS surrounded by fat stranding. There was no evidence of free air, lymphadenopathy, or any significant peritoneal thickening. These imaging findings were suggestive of AS torsion and explained the patient's symptoms while ruling out other differential diagnoses such as acute pancreatitis, peptic ulcer perforation, and peritonitis.

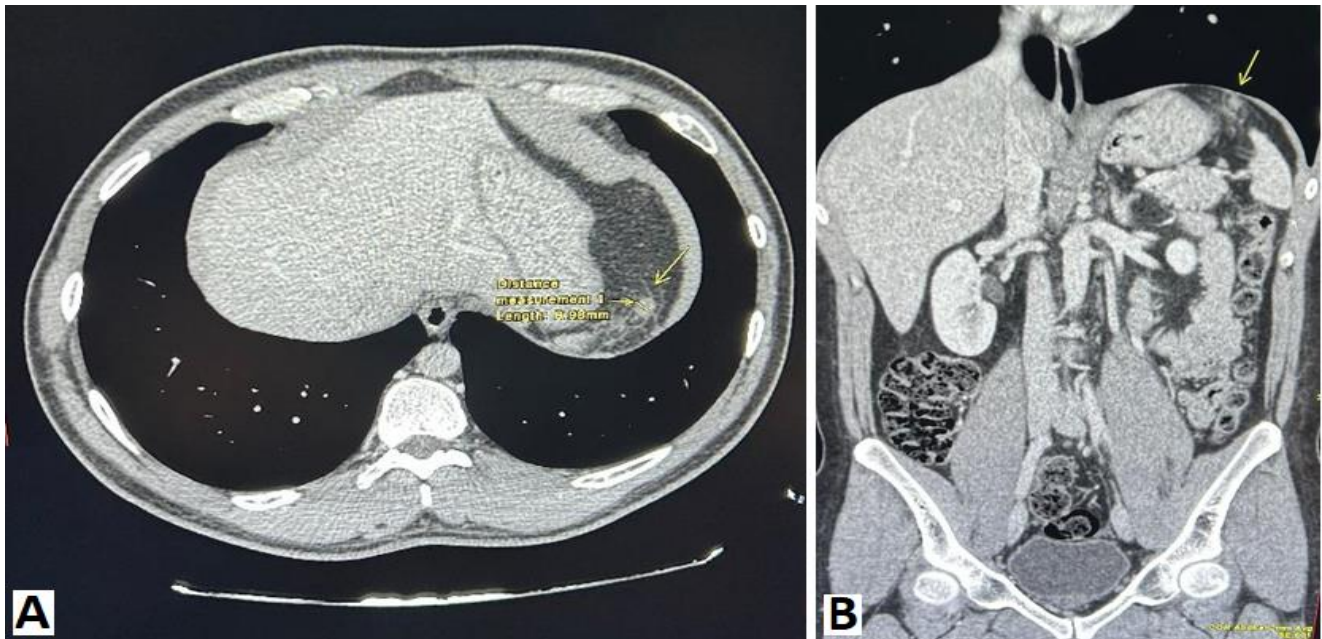


Figure 1 (A and B): Axial view and coronal view of contrast enhance CT scan showing AS surrounded with fat stranding (arrow).

The patient was admitted for close monitoring, and due to hemodynamic stability and the small size of AS, management was conservative with intravenous fluids, insulin as per the sensitive correction algorithm, and analgesics. The patient achieved a pain-free state within about eight hours and was discharged home in a stable condition after 2 days. Regular follow-up visits for 6 months confirmed satisfaction and continued stability with no complications.

DISCUSSION

Torsion of AS is a rare condition, and its clinical presentation is varied and nonspecific. The symptoms can often mimic common abdominal disorders, which makes the diagnosis challenging.⁵ In this case, the patient's presentation with pain in the upper abdomen and back raised suspicion for retroperitoneal pathology like acute pancreatitis. However, imaging revealed a subphrenic AS surrounded by fat stranding, which pointed towards the diagnosis of torsion.

AS is typically asymptomatic and frequently found by chance on imaging for some other indication when they are confused with enlarged lymph nodes or the adrenal/pancreatic mass.⁶ In rare cases, torsion, bleeding, spontaneous rupture, or cyst formation in AS may manifest as various symptoms. In torsion, there is twisting of the vascular pedicle leading to sequelae including strangulation, venous congestion, acute inflammation, hemorrhagic infarction, and even rupture and shock. With early diagnosis and treatment, these complications can be avoided. A variety of factors can predispose AS to torsion, including anatomical abnormalities such as a lengthy pedicle or surrounding ligamentous/fatty tissue.⁶

Patients have acute abdominal pain, and the site of pain depends on the location of the AS. They may also have other associated features, including nausea, vomiting, fever, and leucocytosis. In rare cases, patients may have relapsing and remitting symptoms due to chronic intermittent torsion.⁷ On contrast-enhanced CT, incidentally, detected AS enhances like orthotic splenic parenchyma, and similarly, on MRI, they are isointense to the spleen on all pulse sequences. In torsion, there may be subtle cues on abdominal CT and ultrasound, if the patient presents early, which include fat stranding due to edema, as was found in our case. A definitive diagnosis, however, relies on identifying a "swirl sign" on CT, which is indicative of a twisted vascular pedicle.⁸

Angiography and MRI can be potentially helpful for characterizing torsion, but their utility in acute presentations is limited, and they have a role in elective situations. Similarly, 99mTc-denatured RBC scans have been reported to have avoided unnecessary surgical interventions, such as in the case of intrapancreatic AS, and 99mTc-sulfur colloid scintigraphy has been used for a more complete preoperative evaluation, particularly in smaller-sized AS.⁹ Despite the availability of modern imaging techniques, preoperative diagnosis may remain elusive, and the diagnosis may be attained only on surgical exploration.

Our patient, likely, had a self-relapsing torsion because his symptoms got abated in a short span of time, and blood work did not point towards any gross inflammation. Additionally, our patient had T1DM, which added complexity and was handled with evidence-based algorithms for sugar control in states of stress. The patient received extensive counselling, education, and

information regarding the possibility of a symptom relapse. The patient was cautioned to return to the hospital for treatment in such a scenario.

CONCLUSION

An AS is a common entity and is often asymptomatic. In rare cases, however, it undergoes torsion along the vascular pedicle, leading to diverse acute symptoms and complications that require surgical intervention. In even rarer situations, patients may have relapsing and remitting symptoms due to chronic intermittent torsion. High-quality imaging has an important role in the evaluation of acute abdomen, and the significance is aptly illustrated by the fact that the presented case was only diagnosed by CT scan and would have gone unnoticed otherwise.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: Not required

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Cite this article as: Memon MM, Salati SA, Saadia Z, Memon M. An acute abdomen due to torsion of an accessory spleen: a case report. *Int J Res Med Sci* 2025;13:1671-3.