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Case Report

Isolated torsion of fallopian tube with associated torsed paratubal cystadenofibroma: A case report ☆,☆☆

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ABSTRACT

Cystadenofibromas (CAF) and adenofibromas (AF) are rare benign gynecologic neoplasms of epithelial origin. They can be composed predominantly of solid fibrous tissue, adenofibromas, or contain cystic components, as seen in cystadenofibromas; which can be further classified by their epithelial cell type (serous, mucinous, etc.).

They most commonly arise from the ovary; however, CAF/AF associated with the fallopian tube have also been reported. CAF/AF is typically asymptomatic and found incidentally. Like other adnexal and ovarian masses, patients are at increased risk of ovarian/adnexal torsion, with increasing risk with lesion size. Herein, we present the case of a patient with isolated torsion of a fallopian tube with associated torsed paratubal serous cystadenofibroma. To our knowledge, this is the first reported case of isolated torsion of a fallopian tube with associated para-tubal cystadenofibroma.

Introduction

Cystadenofibromas (CAF) and adenofibromas (AF) are rare benign gynecologic neoplasms of epithelial origin. They can be composed predominantly of solid fibrous tissue, adenofibromas, or contain cystic components, as seen in cystadenofibromas; which can be further classified by their epithelial cell type (serous, mucinous, etc.). They most commonly arise from the ovary; however, CAF/AF associated with the

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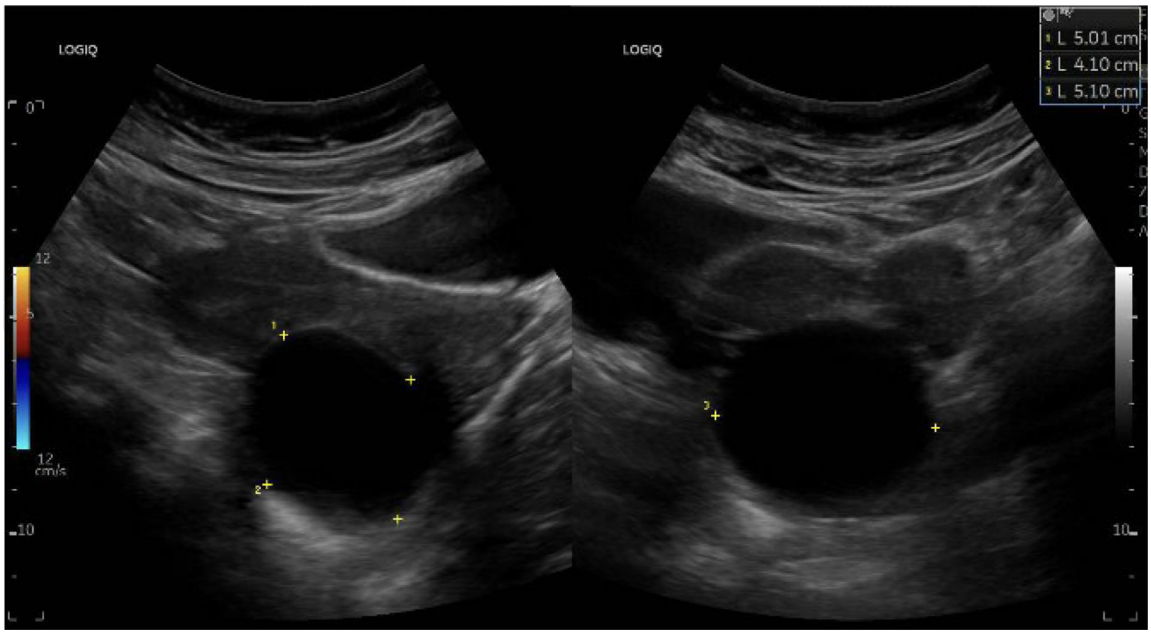


Fig 1 – Grayscale transabdominal ultrasound image demonstrating 5.0 x 4.1 x 5.1 cm anechoic left adnexal cyst.

fallopian tube have also been reported. CAF/AF is typically asymptomatic and found incidentally. Like other adnexal and ovarian masses, patients are at increased risk of ovarian/adnexal torsion, with increasing risk with lesion size. Herein, we present the case of a patient with isolated torsion of a fallopian tube with associated torsed para-tubal serous cystadenofibroma. To our knowledge, this is the first reported case of isolated torsion of a fallopian tube with associated para-tubal cystadenofibroma.

Case report

A previously healthy 23-year-old female presented to the ED with a 1-month history of intermittent pelvic pain with an acute increase in pain in the past 24 hours. Notably, she had been evaluated 3 weeks prior for similar symptoms. At that time, a transabdominal pelvic ultrasound revealed an anechoic para-ovarian/para-tubal cyst measuring 5.0 × 4.1 × 5.1 cm (Fig. 1). The ultrasound findings did not suggest ovarian torsion, with normal ovarian size, echogenicity, and Doppler flow. The patient's pain resolved spontaneously, and she was subsequently sent home with conservative management.

Upon her return to the ED three weeks later, the patient underwent a transabdominal and transvaginal pelvic ultrasound. The left para-ovarian/para-tubal cyst was similar in size, measuring 5.0 × 3.0 × 4.9 cm; however, there was interval development of internal reticular echoes with 1.1 cm hyperechoic focus without Doppler flow (Fig. 2). The left ovary demonstrated normal size and appearance with presence of venous flow; however, there was a nonspecific absence of arterial flow. Given the degree of pain and size of the cyst, the patient was taken for emergent laparoscopy. Intraoperatively, an ischemic left adnexal cystic mass and left fallopian tube were seen, both of which were resected and sent for pathology. Microscopic evaluation of the cyst revealed cystic spaces lined with serous epithelium and fibrous stroma without epithelial proliferation, compatible with serous cystadenofibroma with hemorrhage and infarction (Fig. 3). The patient had an unremarkable postoperative course and was discharged on postoperative day 3.

Discussion

Isolated fallopian tube torsions and torsions of para-ovarian/para-tubal cysts are rare entities that are less well-known among radiologists and clinicians compared to adnexal torsions involving the ovaries. As the name suggests, torsion of the fallopian tube occurs in isolation from the ipsilateral ovary and is often associated with cysts and neoplasms of the adnexa. The clinical presentation of this condition closely mimics that of ovarian torsion; however, sonographic findings are less specific, leading to a higher risk of misdiagnosis prior to surgery [1].

Imaging findings of cystadenofibromas are nonspecific, with considerable variability depending on their composition. The majority of CAFs are predominately cystic; however, nearly half of cases demonstrate mixed solid and cystic components. The solid fibrous components often demonstrate low signal intensity with spongiform morphology on T2-weighted imaging [2]. High T2 signal intensity of the solid components should raise suspicion for cystadenocarcinofibroma [3]. Although CAFs are benign, the relative heterogeneous solid and cystic composition of these tumors can mimic other benign and malignant adnexal masses and are frequently misdiagnosed as such preoperatively [4,5]. CAF associated with the fallopian tube are rare with the vast majority arising from the ovary [6].

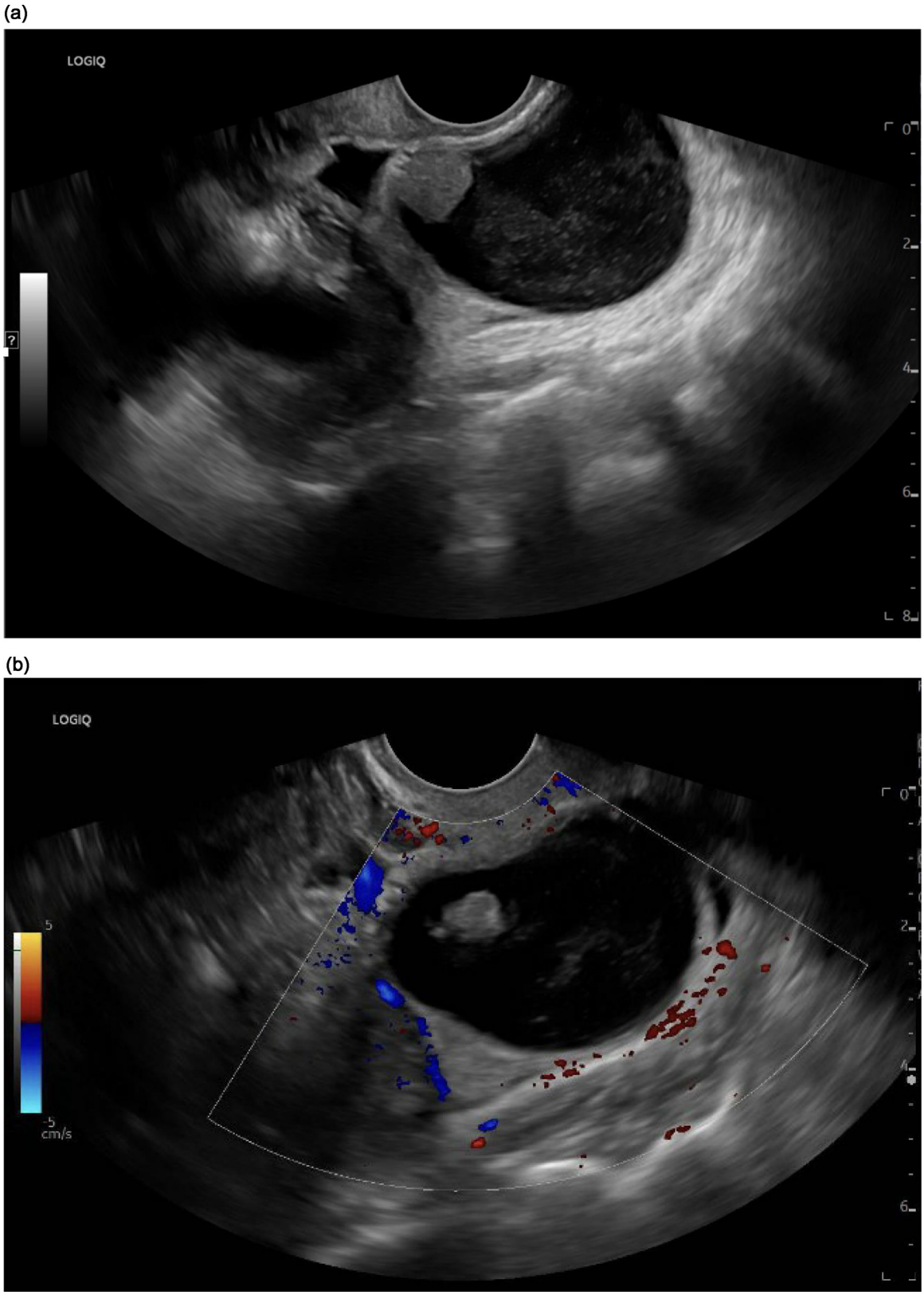
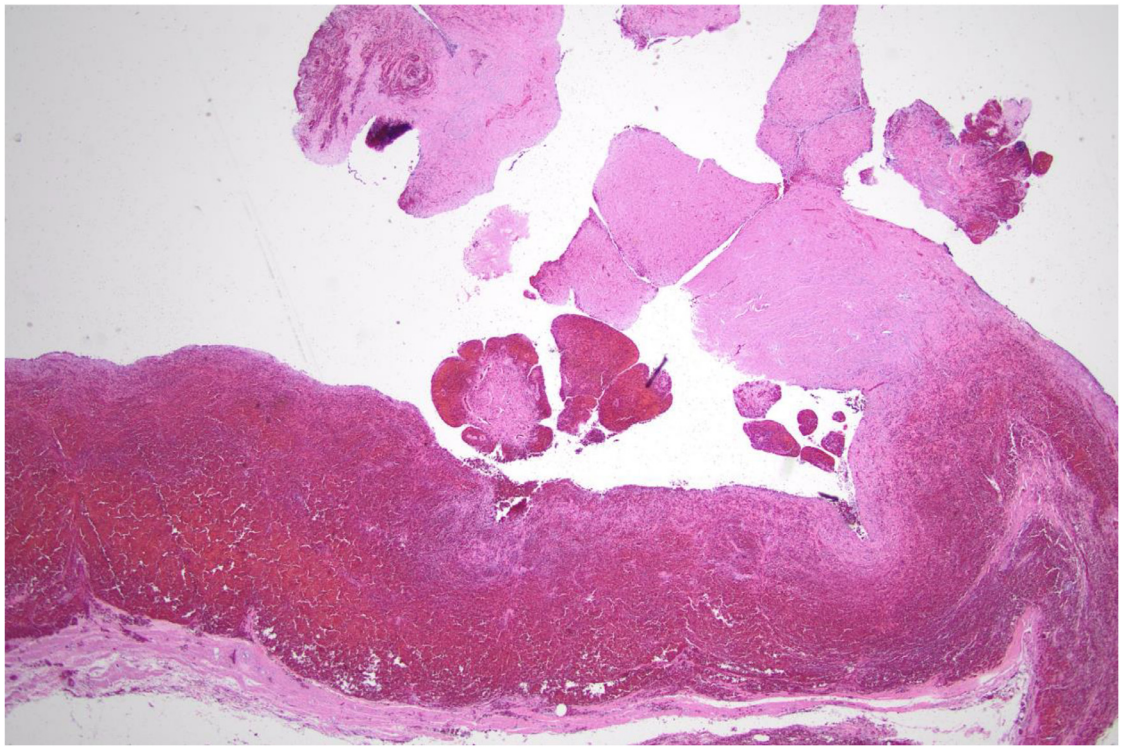


Fig. 2 – Grayscale (A) and Doppler (B) transvaginal ultrasound images demonstrating 5.0 x 3.0 x 4.9 cm left adnexal cyst with internal reticular echoes and 1.1 cm hyperechoic focus without Doppler flow.

(a)



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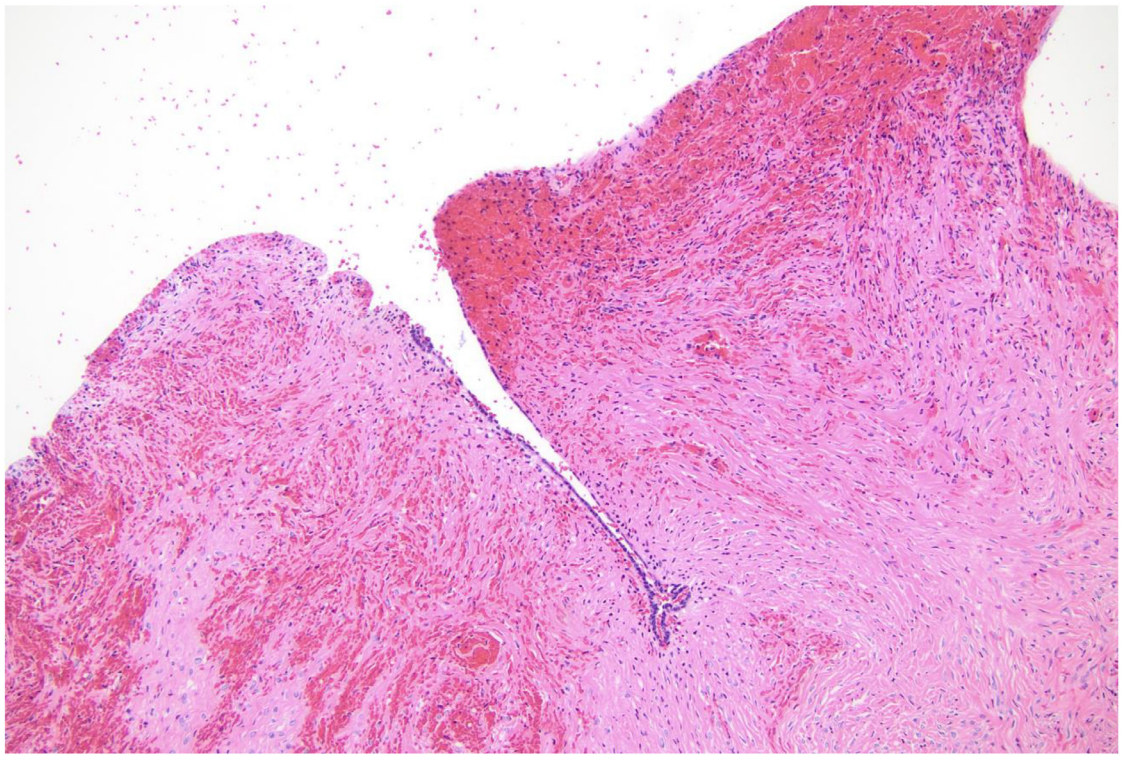

Fig. 3 – (A) Fallopian tube wall (bottom) and fibrous stroma lined with cuboidal epithelium (top) demonstrating congestion and hemorrhage (H&E, 20x). (B): Simple cuboidal epithelium lining fibrous stroma with hemorrhage without epithelial proliferation (H&E, 100x).

Our case is particularly unique given the extra-ovarian location of the cystadenofibroma and the concurrent torsion involving both the cyst and the ipsilateral fallopian tube. The absence of arterial ovarian flow with the presence of venous flow seen in our case is of unknown significance. We postulate this finding may have been secondary to alterations in flow related to the ipsilateral tubal torsion and cyst; however, this finding may be unrelated and/or due to operator technique.

Conclusion

Cystadenofibromas are rare, benign gynecologic tumors that primarily originate from the ovary. However, they can also be associated with the fallopian tubes, as seen in our case. The case highlights the challenges in diagnosing isolated fallopian tube torsions and para-tubal cysts due to their infrequent occurrence and less specific sonographic findings. Clinicians should maintain a high index of suspicion for nonovarian adnexal torsions in patients presenting clinically with signs and symptoms of torsion with equivocal imaging findings.

Patient consent

Informed written consent was obtained from the patient for publication of this Case Report and all imaging studies. Consent form on record.

REFERENCES

[1] Balasubramaniam D, Duraisamy KY, Ezhilmani M, Ravi S. Isolated fallopian tube torsion: a rare twist with a diagnostic challenge that may compromise fertility. J Human Reprod Sci 2020;13(2):162–7. doi:10.4103/jhrs.JHRS_143_19.
[2] Tang YZ, Liyanage S, Narayanan P, Sahdev A, Sohaib A, Singh N, Rockall A. The MRI features of histologically proven ovarian cystadenofibromas: an assessment of the morphological and enhancement patterns. Eur Radiol 2013;23(1):48–56. doi:10.1007/s00330-012-2568-1.
[3] Jung DC, Kim SH, Kim SH. MR imaging findings of ovarian cystadenofibroma and cystadenocarcinofibroma: clues for the differential diagnosis. Korean J Radiol 2006;7(3):199–204. doi:10.3348/kjr.2006.7.3.199.
[4] Wasnik A, Elsayes K. Ovarian cystadenofibroma: a masquerader of malignancy. Indian J Radiol Imag 2010;20(4):297–9. doi:10.4103/0971-3026.73538.
[5] Cho DH. Serous cystadenofibroma misdiagnosed as an ovarian malignancy. BMJ Case Rep 2018;11(1):e228223. doi:10.1136/bcr-2018-228223.
[6] de Silva TS, Patil A, Lawrence RN. Acute presentation of a benign cystadenofibroma of the fallopian tube: a case report. J Med Case Rep 2010;4:181. doi:10.1186/1752-1947-4-181.