

Embolization of Ruptured Ovarian Granulosa Cell Tumor Presenting as Acute Hemoperitoneum

A 56-year-old postmenopausal female presented in shock state and abdominal distension. Contrast-enhanced computed tomography showed a large heterogeneous mass in the left adnexa surrounded by dense

peritoneal fluid with evidence of active contrast extravasation [Figure 1]. The exact origin of the mass could not be identified due to the presence of hemoperitoneum. The patient was resuscitated with

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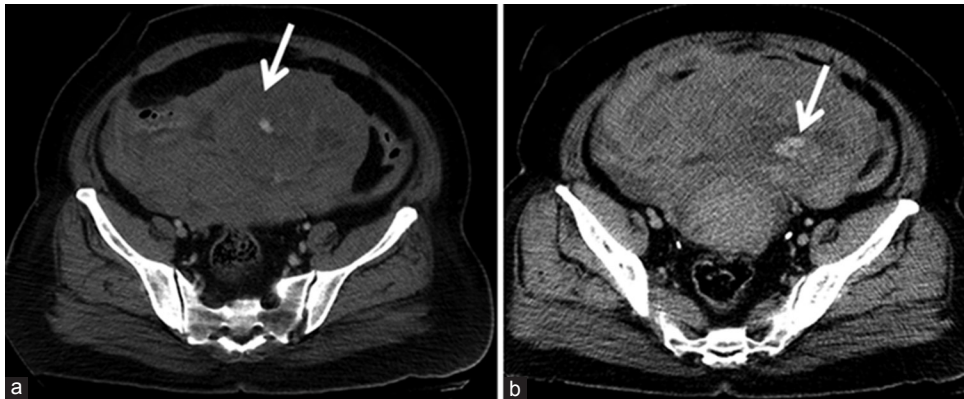


Figure 1: Axial pelvic contrast-enhanced computed tomography scan in arterial phase (a) portal venous phase (b) large pedunculated heterogeneous mass arising from the uterine fundus/left adnexa, surrounded by extensive dense peritoneal fluid related to bleeding and showing internal contrast extravasation (white arrow)

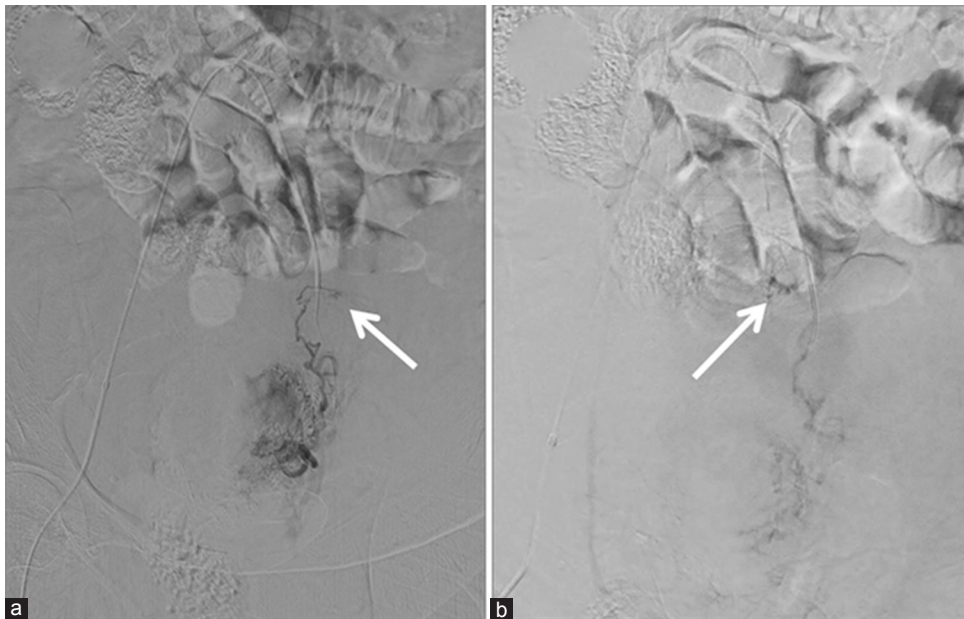


Figure 2: Initial angiogram of left uterine artery demonstrates mildly hypertrophied distal branches (a) with focal contrast extravasation (a and b) (white arrows)

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How to cite this article: Alhendi N, Arabi H, Alhindi R. Embolization of ruptured ovarian granulosa cell tumor presenting as acute hemoperitoneum. Arab J Intervent Radiol 2019;3:33-4.

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Access this article online

Website: www.arabjir.com

DOI: 10.4103/AJIR.AJIR_42_18

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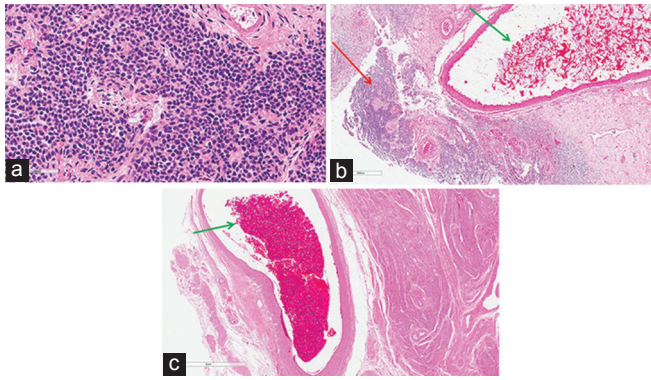


Figure 3: (a) Section of granulosa cell tumor showing small, bland, polygonal cells in a solid pattern. Tumor cells have coffee bean nuclei with folds/grooves. (b) Intravascular immobilized material (green arrow) within Granulosa cell tumor (red arrow). (c) Intravascular immobilized material (green arrow) within uterine wall

intravenous fluid and seven units of packed red blood cells before transfer to interventional radiology. Left uterine artery angiography showed active extravasation [Figure 2]. Embolization was done with 355–500 μ Contour polyvinyl alcohol particles (Boston Scientific, Natick, USA) and gel foam slurry. Embolization endpoint was to stop the bleeding rather than to achieve tumor necrosis, which may obscure the underlying pathology. Abdominal aortography and right uterine angiography showed no additional supply

to the mass. Patient's condition improved and remained stable with no evidence of further bleeding. The following day, the patient underwent open biopsy with frozen section followed by a total abdominal hysterectomy, bilateral salpingoophorectomy, omentectomy, and bilateral iliac lymph node sampling. Pathology confirmed adult-type granulosa cell tumor (GCT) stage pT1c, N0 [Figure 3]. The patient had uneventful recovery, and the multidisciplinary decision was for clinical and imaging surveillance.

Similar to bleeding from obstetric emergencies, transarterial embolization may be used in gynecologic emergencies such as iatrogenic vascular injuries, uterine fibroids, arteriovenous malformations, bleeding pelvic, or ovarian malignancies. Ovarian GCTs are rare neoplasms that originate from sex-cord stromal cells and represent 2%–5% of all ovarian neoplasms. These tumors may rarely rupture to result in abdominal pain, hemoperitoneum and hypotension mimicking ectopic pregnancy in premenopausal woman. Embolization may help in bleeding control before definitive surgical management.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.