Dr Myriam Girgis

Ovarian dermoid cysts

Epidemiology

Dermoid cysts, also known as mature cystic teratomas, are the most common primary ovarian tumour, comprising 60% of all benign ovarian tumours. They are most prevalent in patients aged 20 to 40 years and are more commonly unilateral; bilateral mature teratomas occur in 10 to 17 percent of cases.

Clinical Presentation

Patients with a dermoid cyst may present with abdominal enlargement, pain from cyst rupture and spillage of the sebaceous material into the abdominal cavity, adnexal torsion, and bowel obstruction. Ovarian torsion occurs in up to 15 per cent of cases. Rupture of the cyst content into the abdomen risks a granulomatous reaction known as chemical peritonitis; rupture occurs in 1-4 per cent of cases. Dermoid cysts can affect ovarian fertility, especially when large and bilateral.

Pathogenesis

A dermoid cyst is composed of mature differentiated tissue that is derived from the three germ cell layers: ectoderm, mesoderm, and endoderm origin. The typical macroscopic appearance of a benign cystic teratoma is a mass that contains hair, teeth, and/or skin that is mixed with thick sebaceous material.

Investigations

Serum tumour markers should be performed when an adnexal mass is found. A dermoid cyst may exhibit a raised CA 125, CEA, CA15-3, AFP, LDH, and CA 19.9. CA 19.9 has been found to be a more accurate marker in ovarian dermoid cysts, with the level being influenced by the size of the dermoid cyst.

A pelvic ultrasound is the first-line imaging modality for assessment of adnexal masses. An ovarian mass whose features are inconclusive on pelvic ultrasound may be further assessed on CT or MRI.

Management approach

The approach to the finding of a dermoid cyst depends on the patient's symptoms, age, size of tumour, tumour markers, imaging features, fertility plans and personal preference. A young asymptomatic patient with a small benign appearing dermoid cyst and normal tumour markers, who has fertility plans, may opt for cyst surveillance as a first line approach, whilst a symptomatic patient will likely opt for surgery.

Definitive histologic diagnosis is made by surgical excision. Ovarian cystectomy is suggested in reproductive age women with childbearing wishes in order to preserve ovarian tissue and reduce the risk of torsion, rupture, infection or malignant transformation. For women that have completed childbearing, salpingo-oophorectomy is an acceptable approach.

Mature cystic teratomas may be removed via either laparoscopy or laparotomy. There are several minimally invasive surgical techniques for laparoscopic removal of a dermoid cyst without spillage of its' sebaceous content in order to minimise the risk of chemical peritonitis. A laparotomy may be performed should there be concern regarding potential malignant transformation or in the setting of a large cyst where spillage is of particular concern.

Prognosis

The recurrence of mature cystic teratoma is 3-4%. Three main predictive factors for ovarian teratoma recurrence after surgical excision are bilateral tumours, young age (<30years), and size >8cm.

Malignant transformation

Malignant transformation occurs in 1-3 per cent of cases. Malignancy may arise in any of the tissue components in a mature cystic teratoma, of which 80% are squamous cell carcinoma transformation. Risk factors for malignant neoplasm in a dermoid cyst include age over 45 years, mass diameter >10 cm, rapid growth, and suspicious findings on imaging.

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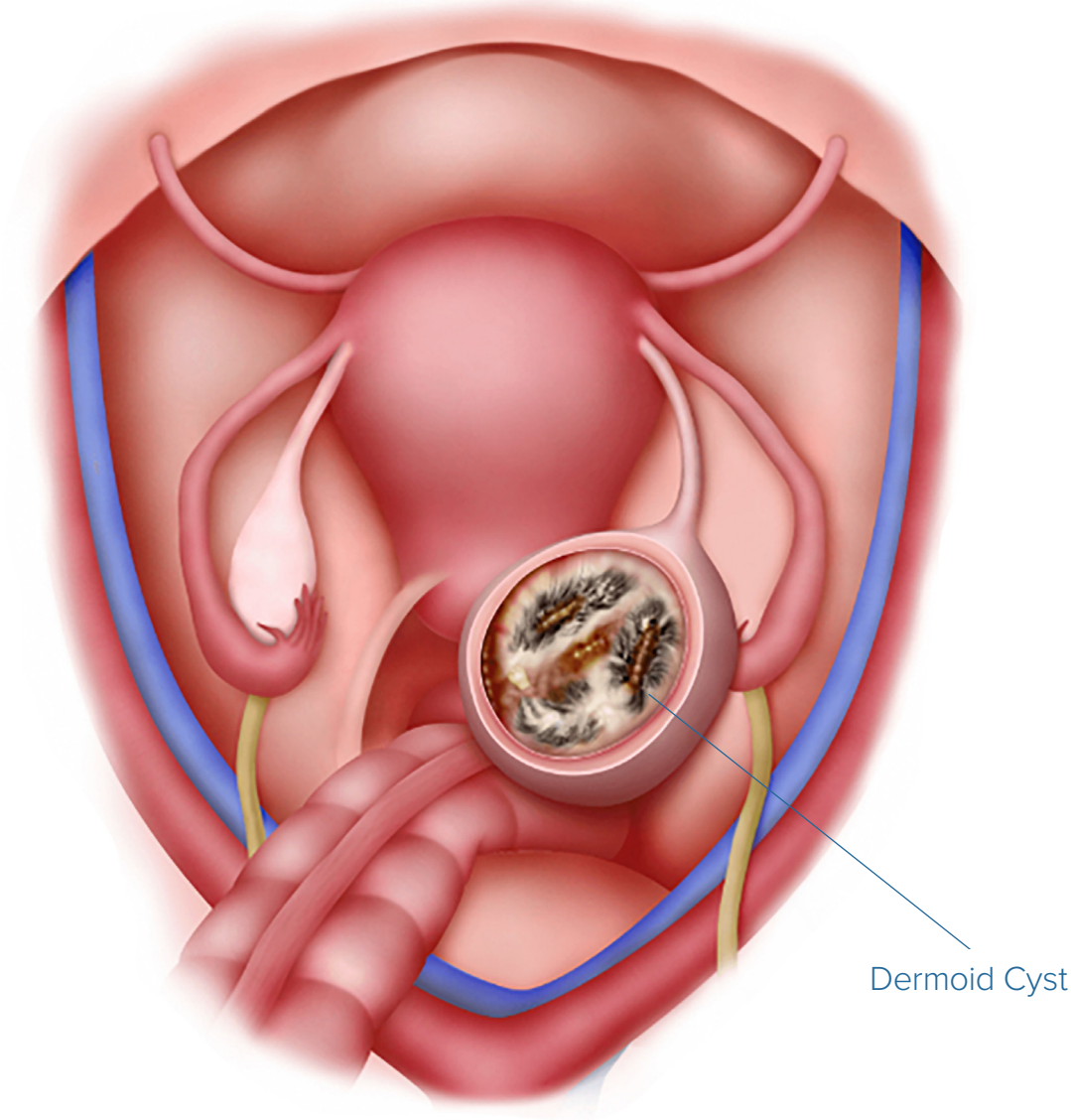

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