A rare case of ovarian mixed germ cell tumour with polyembryoma, yolk sac and mature teratoma components

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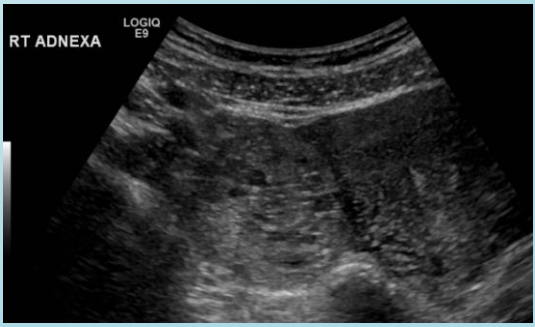
ABSTRACT

Ovarian germ cell tumours are derived from primordial germ cells of the ovary. Polyembryomas are an exceedingly rare type of immature germ cell malignancy, with recapitulation of embryoid bodies where yolk-sac, embryonal and teratoma components can be found.

CASE REPORT

A 21-year-old lady presents with 3 months of abnormal uterine bleeding and lower abdominal pain after an episode of unprotected sexual intercourse. A pelvic ultrasound (transabdominal and transvaginal) showed a multicystic 5cm lesion with eccentric rounded hyperechoic shadowing focus in the right adnexa, likely arising from the right ovary. No intrauterine gestation sac was identified. Her serum bHCG was 9560 IU/L and initial working diagnosis was an ectopic pregnancy. A diagnostic laparoscopy revealed a 5cm right ovarian cyst with very vesicular and vascular contents. A right ovarian cystectomy was completed. Histopathology showed of malignant mixed germ cell ovarian tumour with predominant polyembryoma component. She had elevated serum levels of bHCG, AFP and LDH, which were downward trending post-operatively. A further laparoscopic staging with right salpingo-oophrectomy, left ovarian cystectomy and left ovary biopsy, right diaphragmatic peritoneum biopsy, omental biopsy and peritoneal washings was completed. Histopathology showed mixed malignant germ cell tumour (90% polyembryoma/yolk sac, 10% mature teratoma). Peritoneal washings and biopsies of left ovary, diaphragm, and omentum were negative and (stage 1C2 according to FIGO classification). The patient was subsequently commenced on adjuvant bleomycin-etoposide-cisplatin chemotherapy.



DISCUSSION

Almost all reported cases of polyembryomas consist of other tumour types, with predominantly yolk sac components in combination with immature or mature teratoma. A literature search has not revealed any cases of polyembryomas with identical composition to this case. As malignant germ cell tumours commonly affect young women of reproductive age, management requires careful consideration of fertility preserving surgical techniques and chemotherapy management. One case does report conservative management with serial tumour markers and imaging studies to avoid aggressive cytotoxic chemotherapy.[1] Prognosis is significantly more favourable in patients with stage I disease than those with stage II and IV disease.[2] Polyembryoma tumour markers include HCG from syncytiotrophoblastic cells and AFP from cuboidal cells of the yolk sac cavity and hepatoid tissue. Serial measurements of these tumour markers have been useful in the diagnosis, monitoring response to treatment, and follow-up during remission to detect early recurrence.[3, 4]

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