

CASE REPORT

YOLK SAC TUMOUR IN A PREMENARCHAL GIRL: A CASE REPORT

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ABSTRACT: Yolk sac tumour, otherwise known as endodermal sinus tumour, is a rare and highly malignant germ cell tumour accounting for approximately 10% of malignant germ cell tumours. The tumour usually presents as a rapidly growing mass in young women. Here we present a case of a young premenarchal girl with a huge ovarian tumour which proved to be a yolk sac tumour and was successfully managed.

KEYWORDS: Yolk sac tumour, Endodermal sinus tumour, Premenarchal.

INTRODUCTION: Ovarian yolk sac tumour is a subtype of germ cell tumour, characterized histologically by papillary projections, which resembles the yolk sac of the rodent placenta. This is a rare tumour; but it accounts for about 10% of malignant germ cell tumours. The tumour usually presents as a rapidly growing mass in young women.

CASE REPORT: Ms. MD, a 13 years old premenarchal girl presented with dull aching pain in the lower abdomen for the last 3 months along with a gradually increasing generalised swelling of the abdomen. On examination, she had mild pallor and her nutrition was poor. Her BMI was 18.22 kg/m². On abdominal examination a tense cystic lump was palpable extending upto the xiphisternum whose lower pole could not be reached suggesting the lump to be arising from the pelvis. No ascitis could be delineated. The mass was non tender with restricted mobility due to its huge size. It was more or less smooth with regular margins.

USG showed a very large heterogeneously echoic SOL in the lower abdomen extending upto the upper abdomen below xiphoid. Outline of uterus was poorly visualised. Ovaries could not be delineated. Small ascitis was noted. Laboratory investigations for tumour markers of ovarian tumour were done and depicted in Table 1.

TUMOUR MARKERS	VALUE	NORMAL
CA-125	366.2 U/ml	<35 U/ml
β-HCG	<0.10 mIU/ml	<5.0 mIU/ml
AFP	17,965 ngm/ml	<50 ngm/ml
LDH	338 U/L	<250 U/L

Table 1: Blood values of tumour markers investigated:

HCG: Human Chorionic Gonadotrophin; AFP: Alpha Feto Protein; LDH: Lactate Dehydrogenase

An elective exploratory laparotomy was done after all preoperative investigations. On opening the abdomen by right paramedian incision, minimal amount of ascitic fluid was drained and also collected for cytological investigation.

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A big rounded solid cystic mass of around 12 cm × 10 cm size noted arising from right ovary. Left ovary, bilateral tubes were healthy and uterus was of normal size. The mass was adhered to the small intestine with a band like structure. The mass was delivered through the incision line and right sided oophorectomy was done. The band like peritoneal adhesion with intestine was clamped, cut and transfixed with absorbable suture. All abdominal organs inspected and palpated for evidences of metastasis and peritoneal biopsy taken. After peritoneal toileting with normal saline and putting an abdominal drain, abdomen was closed in layers. Specimen was sent for Histopathological Examination.

The postoperative period was uneventful. 2 units of whole blood transfusion were given. Drain output was about 100 ml of serous fluid in the first 2 days, which gradually decreased and drain omitted on the 4th postoperative day. Stitches were removed on the 10th postoperative day.

The histopathology of the specimen showed presence of cystic spaces lined by flattened epithelium. The cystic spaces sometimes contained tuft of vascular tissues suggesting Schiller-Duval bodies. This histological picture is suggestive of endodermal sinus tumour or yolk sac tumour of the ovary. Ascitic fluid cytology was negative for malignant cells.

DISCUSSION: Yolk sac tumour, so called endodermal sinus tumour, is a rare and highly malignant germ cell tumour¹ and accounts for about 10% of malignant germ cell tumours. The tumour usually presents as a rapidly growing mass in young women.² Clinically the tumour presents as an ovarian, pelvic, retroperitoneal or a sacrococcygeal mass. Current evidence has proved Teilum's postulate that yolk sac tumour is a unilaterally developed teratoma mimicking embryonal yolk sac tissue.³

Germ cell tumours constitute approximately 20% of all ovarian neoplasms. Most of them are seen in children and young adults. Approximately 95% of these tumours are benign cystic teratomas; the young the patient more likely the germ cell tumour will be malignant.⁴ Almost always a unilateral solid or partly solid and cystic tumour, displays a wide range of histologic patterns like microcystic, endodermal sinus, solid, alveolar-glandular, papillary, myxomatous, macrocystic, hepatoid, primitive endodermal or polyvesicular vitelline. Classic pattern shows perivascular formations (Schiller-Duval bodies) and eosinophilic globules that contain AFP⁵. Differential diagnosis of yolk sac tumour includes embryonal carcinoma and other germ cell tumours such as seminoma and dysgerminoma.

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