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Case Report

Dysgerminoma: a case report on rare malignant tumor

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ABSTRACT

Dysgerminoma is a malignant germ cell tumour (GCT) accounting for less than 1% of ovarian neoplasm. It is analogous to seminoma in males. It is a tumour of young age, affecting women of reproductive age group. In most of the cases, due to its clinical features of it is often, misdiagnosed as abdominal tuberculosis. It is one of the rare tumours, which have excellent response to chemotherapy and radiotherapy. It is tumour in whom, surgery followed by radiotherapy and chemotherapy gives excellent prognosis even in advanced stage. This is a rare case report of 16-year-old girl with primary amenorrhoea, abdominal mass and pleural effusion, when undergone staging laparotomy – had ovarian tumour with torsion which histopathologically came out to be, dysgerminoma.

Keywords: Dysgerminoma, Ovarian tumour, Torsion, Chemotherapy

INTRODUCTION

Ovarian tumours are classified into 3 types, based on their cells of origin. They are classified as epithelial (most common), sex cord and germ cell tumours.[1] Germ cell tumours arise from malignant transformation primordial of germ cells and sometimes develop in patients with anomalies of genital tract like gonadal dysgenesis.[2] Germ cell tumours (GCT's) contribute to 30% of ovarian neoplasms and 3% of malignant ovarian neoplasms.[3] Malignant germ cell tumours are further classified into subgroups, most common of it is, dysgerminoma.[4]

It is a tumour of young age, affecting women of reproductive age group (10-30 years).[5] It is a rapidly growing tumour, presents as pain in abdomen and large abdominal mass.[6] Tumour markers associated with dysgerminoma are Sr. LDH and Sr. β-hcG, which are raised.[7-10] In unilateral capsulated unruptured ovarian tumour, treatment of choice is conservative surgery and in advanced disease, radical surgery followed by chemotherapy gives good prognosis.[4]

CASE REPORT

A 16-year-old girl came to casualty with complaints of pain in abdomen since 3 days and 2 episodes of vomiting. On per abdominal examination, a mass was palpable corresponding to 24 weeks of gestation arising from right side up to umbilicus. Surface of mass was irregular, consistency was firm, mobility was restricted, margins were ill-defined. Lower pole of mass could not be reached.

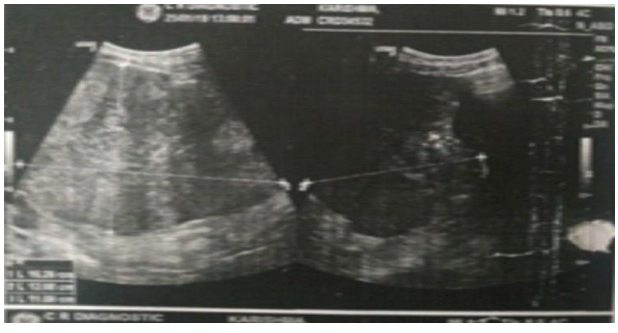

Figure 1: USG film depicting large ovarian cyst.

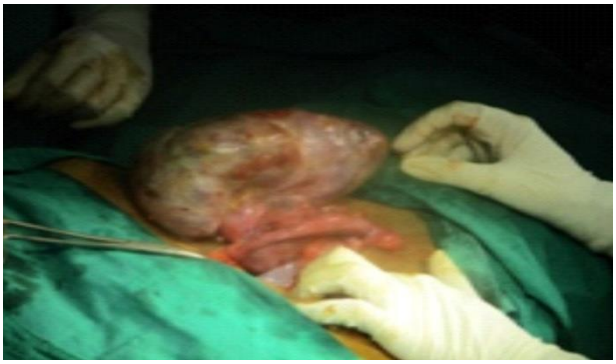

Figure 2: Intra-op finding of large ovarian cyst with torsion.

Ultrasonography was done, it was suggestive of 18×14×14 cm, solid mass in pelvis reaching up to umbilicus. Left ovary and uterus was not seen separately from mass. Mild to moderate fluid was present in Morrison's pouch, bilateral para-colic gutter and pelvis. CECT was done, it was suggestive of 16×12×14 cm, lobulated solid cystic mass of in the pelvis arising from left adnexa. Free fluid was present in peri-hepatic, peri-splenic, para-colic gutters and pelvis. Right ovary was seen separately. Features suggestive of Left adnexal malignant mass.

Tumour markers i.e. LDH, AFP, Ca 125, CEA, Ca 19-9 and β-hcG were sent. Serum LDH was raised- 895 IU/l. Rest all tumour markers were negative. Chest X-ray was done, it was suggestive of right mild pleural effusion. So, there was suspicion of tuberculosis, for which Mantoux test was done and ascitic fluid was sent for AFB. Both came out to be negative.

Girl had primary amenorrhoea. Secondary sexual characteristics were present. Staging laparotomy was done. Intra-operatively there was 15×14×10 cm, solid lesion on right side of abdomen with e/o torsion. De-torsion was done. Mass found to be originating from left ovary. Left salpingo-ovarectomy with peritoneal fluid aspiration and infracolic omentectomy was done. Samples of peritoneal fluid and infracolic omentectomy were negative for malignancy.

Histopathologically, ovarian mass came out to be dysgerminoma. Stage of the tumour was Ia. Post-operatively, it was treated with 3 cycles of chemotherapy consisting of bleomycin, etoposide and cisplatin (BEP). Upon follow-up, patient had no recurrence.

DISCUSSION

Dysgerminoma though rare, is the most common malignant GCT, accounting for 33% of malignant germ cell tumours (GCT's).[11] Three-fourth cases of dysgerminoma are seen in adolescent and young age group. This age group accounts for 33% of cases of ovarian malignancies.[12] KIT mutations are present in about 33% of dysgerminomas which is linked to advanced stage at presentation.[13]

In 80-85% cases, it is unilateral.[4] The most common mode of spread is via perirectal lymphatic system into paraaortic lymph nodes.[4] In advanced disease, it spreads via hematogenous route.[4]

In dysgerminoma, first symptom is pain in abdomen followed by abdominal mass.[14] Patient can have menstrual irregularities due to hormonal imbalance.[15] It is very rapidly growing tumour and symptoms may persist from one month to six months prior to diagnosis.[4]

It is analogues to seminoma in males.[15] Grossly it appears as tan coloured, lobulated, firm mass. Histopathologically, it consists of nests of medium to large sized polygonal cells which have round nuclei, separated by fibrous septa with dense infiltration by lymphocytes and multinucleated giant cells.[5]

In dysgerminoma, surgery is not only therapeutic but also required for diagnosis and staging of disease.[15] 75% cases of dysgerminoma are of stage Ia, for which unilateral salpingo-ophrectomy followed by 3 cycles of bleomycin, etoposide and cisplatin (BEP) is curative.[4,15] For advanced stages, hysterectomy with bilateral salpingo-ophrectomy with lymphadenectomy and omentectomy followed by 4 cycles of bleomycin, etoposide and cisplatin (BEP) is gold standard treatment.[16-18] Dysgerminomas have excellent response to chemotherapy and radiotherapy.4 Fertility preserving surgery should be kept in mind while operating.[4] Surgery followed by chemotherapy and radiotherapy gives good prognosis. Follow-up should be kept for diagnosis of recurrence.[4]

A case report illustrated by Luniya IA et al illustrated primigravida with 9 months of gestation had incidental finding of ovarian tumour during LSCS, which was resected intra-operatively, histopathologically came out to be dysgerminoma.

A case report illustrated by Wakode SR et al illustrated 22-year-old lady P1L1, with pain in abdomen and abdominal mass (36 weeks size) posted for surgery. Upon investigating, patient had huge tumour (22×24×32 cm), which was not seen separately from bilateral ovaries. Sr. LDH and Sr. β-hcG was raised. Patient underwent staging laparotomy, intra-operatively patient had, huge tumour arising from right ovary for which total abdominal hysterectomy with right salpingo-ophrectomy with lymphadenopathy and omentectomy was done. Histopathologically ovarian tumour came out to be, dysgerminoma. Post-operatively, chemotherapy was given.

A case report illustrated by Ajao M et al illustrated 27-year-old nulligravida with flank pain and recurrent UTI, on investigating had ovarian mass. Patient underwent unilateral salpingo-ophectomy with lymphadenectomy

and omentectomy. Hispathologically, tumour came out to be stage IIIC metastatic dysgerminoma, for which 4 cycles of chemotherapy was given.

CONCLUSION

It is a tumour of young age- reproductive age group. Women in reproductive age group with pain in abdomen or recurrent culture negative UTI or haematuria, should be investigated aggressively to rule out dysgerminoma. Fertility preserving surgery should be kept in mind while operating. It is a tumour which has excellent response to chemotherapy and radiotherapy. It is composed of syntitiotrophoblast giant cells which secrete Sr. LDH, and Sr. alkaline phosphatase. So, these markers can be used for monitoring disease by serial measurement. Careful follow-up is required for early detection of recurrence.

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