

MALIGNANT MIXED GERM CELL TUMOURS OF OVARY: A REPORT OF TWO CASES

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ABSTRACT

Malignant germ cell tumours of ovary comprise less than 5% of all ovarian neoplasms. Malignant mixed germ cell tumours are still rare. Most common combination in mixed germ cell tumours is that of Dysgerminoma & yolk sac tumour. Mixed tumours showing three germ cell components and four or five germ cell components are still rare. Here we report two cases of Malignant mixed germ cell tumours with a histologic combination of Immature teratoma, Dysgerminoma & Yolk sac tumour. Review of literature also showed such type of combination.

Key-Words: Malignant Mixed Germ Cell Tumours; Ovary; Ovarian Neoplasms; Dysgerminoma; Immature Teratoma; Yolk Sac Tumour

Introduction

Germ cell tumours of ovary constitute 20% of all ovarian neoplasms.^[1] 95% of germ cell tumours are benign cystic teratomas. Other 5% are malignant.^[2] Germ cell tumours are considered to be derived from primitive germ cells. This group of neoplasms comprises a large number of histologically different tumours. Germ cell tumours often show combination of various elements- referred as Malignant mixed germ cell tumours, which occur in 8% of cases of germ cell tumours. Most common combination is that of Dysgerminoma with Yolk sac tumour. Combination of various elements necessitates ample sampling for microscopic study, since the presence & quantity of the various components may determine the patients ultimate prognosis.^[3] Here we report two cases of Malignant mixed germ cell tumours of ovary with a combination of Immature teratoma, Yolk sac tumour & Dysgerminoma.

Case Reports

CASE – 1

A 12 years girl presented with pain in abdomen & distension of abdomen since six months. Ultrasonography revealed massive mesenteric lymphadenopathy with a possible diagnosis of Abdominal Koch's. Preoperative investigations showed normal beta-hCG & raised serum alpha feto protein levels. On exploration a large mass arising from right ovary was seen. Oophorectomy done. Gross – Received a large mass of 15x15x8 cm; lobulated; soft to firm to hard in consistency (Figure 1) – Cut section examination (C/S) Showed variegated appearance with

solid greyish white and soft cystic areas with haemorrhage necrosis. At places yellowish solid areas were seen. No hair; bone; tooth were seen. Microscopic examination revealed immature neural tissue, cartilage, muscle, fibromatous tissue. At places glandular areas, rosettes were seen. Sheets of large, polygonal malignant cells separated by fibrous septae were also seen. Schiller-Duval bodies [reticular pattern] seen. Large areas of haemorrhage & necrosis were seen. Post operatively beta-human chorionic gonadotrophin and serum alpha feto protein were normal.

CASE – 2

A 26 years female presented with lump in abdomen & pain since one year. Ultrasonography revealed Left ovarian malignancy. Preoperatively CA 125 was normal. Abdominal hysterectomy with bilateral salpingo-oophorectomy was performed. Gross – Uterus with cervix measuring 6x5x4 cm, was unremarkable. Right ovary 2x1x1 cm, unremarkable. Left ovary measured 15x14x10 cm, bosselated, lobulated, well encapsulated with over stretched fallopian tube. C/S-Encephaloid; at places solid variegated and at places cystic appearance seen (Figure. 2). Microscopically showed large cells arranged in lobules separated by fibrous septae which show lymphocytic infiltrate. Other tissue elements like cartilage are also seen. Neural tissue in form of glandular pattern is seen. Reticular pattern or micro cystic areas seen. Areas of haemorrhage and necrosis seen. (Figure 3 and 4)

Both cases was diagnosed as Malignant mixed germ cell tumour of ovary with a histologic combination of immature teratoma; dysgerminoma and Yolk sac tumour.



Figure-1: Bosselated external surface of ovarian tumor



Figure-2: Cut section show solid, encephaloid, variegated and at places cystic appearance

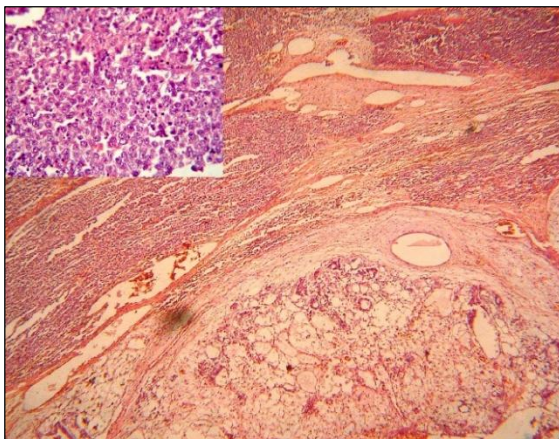


Figure-3: Photomicrograph show tumour cells in sheets and reticular pattern. Inset shows large polygonal cells with vesicular nuclei and vacuolated cytoplasm. (H & E x 40)

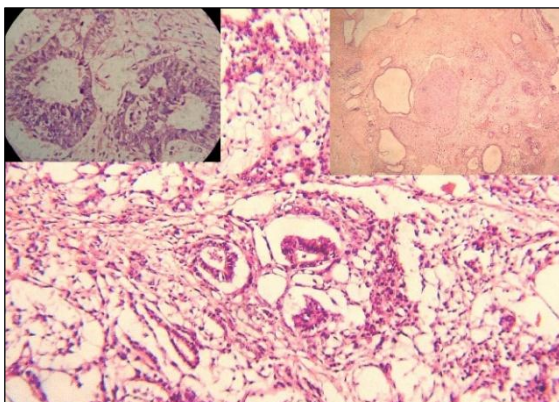


Figure-4: Photomicrograph show Schiller-Duval bodies and reticular pattern. Inset show cartilage and neural component. (H & E x 40)

Discussion

Malignant mixed germ cell tumours of ovary are rare malignant neoplasms containing combinations of two or more types of germ cell elements.^[1-4] Incidence of malignant mixed germ cell tumours of ovary varies from 6 to 19 %.^[1-10] Median age of presentation is second decade.^[1] Usual presentation is unilateral ovarian enlargement.^[1,2,4] Bilateral ovarian involvement was also noted, the incidence of which varied from 3 to 19 %.^[1,2,7] Most common presenting symptoms are abdominal pain and distension of abdomen.^[1-3] Size of tumour varied from 4 to 35 cm, mean being 15 cm diameter.^[1,2] Patients with less than 10 cm diameter tumour had good prognosis regardless of the composition of tumour.^[2] Most of the tumours showed two germ cell types^[1-4], incidence of which varied from 10 to 81 %. The vast difference in the incidence might be because of the total number of cases studied. Most common combination is that of Dysgerminoma & Yolk sac tumour.^[1-4] Tumours showing three germ cell components were also noted, incidence of which varied from 14 to 31%.^[1,2,4] The present combination of immature teratoma, yolk sac tumour & dysgerminoma was noted in 3 cases [10%] by Kurman & Norris in 1976. Various other combinations in triple elements were also noted. Tumours showing 4 or 5 germ cell components were also noted with an incidence of 2 to 10 %.^[1,2] A component of yolk sac tumour carries bad prognosis.^[5] Tumour with any germ cell element other than yolk sac tumour carries good prognosis.^[1-3] Raised levels of serum alpha feto protein suggests presence of yolk sac tumour. Monitoring of AFP levels serves as a good indicator for recurrence of tumour. An increase in the AFP level to a positive level even without clinical signs of recurrence should be regarded as a recurrence.^[6] Treatment consisted of debulking surgery and followed by chemotherapy.

Conclusion

We have presented these cases due to combination of multiple germ cell tumour of ovary which is rarely described in Indian literature. Monitoring levels of serum beta hCG and AFP level serves as a good indicator for recurrence of tumour.

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