LYMPHOMA OF THE OVARY

(Report of 3 Cases)

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Lymphosarcoma involving the female genital tract, particularly the ovary is a rare entity. Ziegermann *et al,* (1956) reviewed the literature and found only 2 primary and 3 secondary lymphosarcomas of the ovary and they added 1 case. Nelson *et al* (1958) stated that 4 cases of lymphosarcoma of the ovary were encountered at the Mayo clinic over the past 20 years. In each instance pelvic signs and symptoms necessitated laparotomy. Duggan (1957) recorded 1 case. Scarneechia and Mulla (1960) reported one case.

Even though secondary involvement of the ovary in malignant lymphomas has been reported, a review of literature showed less than 20 cases of primary involvement (Ramachandran and Gracy, 1970). Among the 250 cases of lymphoma, Ramachandran and Gracy (1970) found only 1 primary case of ovary.

On reviewing the pathology records in the Department of Pathology, Kurnool Medical College, Kurnool A.P., 3 cases of primary lymphosarcoma of the ovary wese on record among total 234 lymphomas forming a general incidence of 1.28% and among total 110 malignant ovarian tumors, an incidence of 2.7%.

Because of its rarity we are reporting 3 cases of primary lymphosarcoma of the ovary.

Case 1

A 22 year old woman, gravida 3 was admitted in the Gynec ward, K.G.H., Kurnool A.P. with pain and swelling of abdomen for the past 4 months. Her menarche was in the 13th year and married life was 9 years with a regular menstrual cycle.

Abdominal examination revealed ascites with positive shifting dullness and an irregular firm mass which was transversely disposed in the right and left iliac fossae, suprapubic region and was slightly nodular. On vaginal examination the uterus was anteverted and a firm mass was felt in both fornices.

All routine investigations were within normal limits.

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Clinical diagnosis of a bilateral solid ovarian tumor with ascites was made and laparotomy was performed. Peritoneal cavity contained 300 cc of straw-coloured fluid. Both ovaries were replaced by solid greyish white tumors of 15 x 12 x 10 and 8 x 10 x 6 cm. size. Uterus and tubes were normal. Other organs were normal. Total abdominal hysterectomy with bilateral salpingo-oophorectomy was done. Postoperative period was uneventful.

The specimen received consisted of uterus with both tubes and ovarian tumors. Uterus measured 7 x 4 x 3 cm. and was normal. Tubes were normal. Both ovarian tumors measured 15 x 12 x 10 cm. (Rt.) and 8 x 10 x 6 Cm. (Lt.) respectively. They were smooth, soft to firm in consistancy. Cut section was uniformly greyish-white with follicular cysts to one side.

Microscopically the architecture of both the ovaries was almost completely replaced by a cellular tumor made up of diffuse sheets of small round cells which were 2 or 3 times the size of small lymphocytes. These were composed of hyperchromatic nuclei with only a thin rim of cytoplasm (Fig. 1). A residual rim of ovarian tissue was extensively edematous and hyperemic.

Case 2

A 35 year old woman was admitted with pain and swelling in the lower abdomen for the past 7 mosths. She was a 3rd Gravida with a married life of 20 years and regular menstrual cycles.

All the routine investigations were within normal limits. Abdominal examination revealed a firm mass in the right iliac fossa and no ascitis. Vaginal examination revealed a normal sized uterus. Left fornix was free and a firm irregular mass was felt in the right fornix.

A clinical diagnosis of right ovarian tumor was made and laparotomy was done. Uterus, left ovary and left tube were normal in size. Right ovary was enlarged, measuring 20 x 15 x 10 cm. soft and adherent to pelvic peritoneum and omentum. The right tube was very thick. All other organs appeared normal.

The tumor mass along with right tube was removed. It measured about 20 x 15 x 10 cm. and was partly capsulated. Surface was friable with extensive necrosis and hemorrhage. Cut section was soft, friable with areas of hemorrhage and necrosis. Right tube was markedly thickened.

Histologically, the cells showed diffuse non-follicular lymphocytic growth with large hyperchromatic nucleated cells with scanty cytoplasm. The ovarian tissue was completely obliterated by the tumor. Tube showed infiltration.

Case 3

A christian unmarried female of 20 years was admitted with pain and swelling of abdomen for the past 5 months which was gradually increasing in size. Her menstrual cycle was regular. Abdominal examination revealed ascites with positive shifting dullness and a firm mass in both right and left iliac fossae. On vaginal examination the uterus was anteverted and a palpable mass in both fornices was felt. Clinically diagnosed as carcinoma or Krukenberg tumors laparotomy was performed.

About 200 cc. of straw-coloured fluid was present in the peritoneal cavity. Uterus and tube were normal. Both ovaries were enlarged upto 15 x 10 x 17 cm. and adherent to pelvic peritoneum and omentum. All other organs were normal. The ovarian tumors along with a bit of omentum were removed.

The pathological examination revealed soft, greyish-white tumors of 15 x 10 x 7 cm. size, which histologically showed typical lymphosarcomatous picture. Omentum showed infiltration.

Discussion

Extranodal origin of lymphomas has been known as early as 1865 when Herard (1865) Quoted by Lucia *et al* (1952), described a case of Hodgkins disease of the ovary. Kundrett (1893) Quoted by Lumb (1954) gave a detailed description of pathology of lymphosarcoma and also mentioned the origin in various tissues and organs other than lymphnodes and spleen. Since then reports of involvement of ovary in cases of lymphoma have appeared. Sugarbaker and Craven (1940) in a study of 196 cases found 34.5% of lymphomas originating from extranodal sites. Tonsils were the commonest site followed by gastrointestinal

tract. There was only 1 case of involvement of ovary.

Ziegermann *et al* (1956) reported a case of lymphosarcoma of the ovary in a 30 year old female and suggested that the distinction into primary and secondary is only misleading taking into account the generally accepted view of multicentric origin, of lymphoma. They also drew attention to the large size of ovarian lymphoma when compared with lymphomas of other viscera.

Nelson *et al* (1958) from Mayo clinic reported 6 cases. They concluded that it is best to consider the ovary as one of the several sites involved and agreed with Ziegermann *et al,* (1956) that it is not necessary to make any distinction between primary and secondary lymphomas.

Woodruff *et al* (1963) reported a study of 35 cases of lymphomas of ovary from ovarian tumor registry of the American Gynaecological society. Fourteen were of lymphocytic type, 10 lymphoblastic, 10 reticulum cell sarcoma and 1 follicular lymphoma, but majority of these cases were secondary to gastrointestinal lymphomas. There appears to be an apparent susceptibility for the ovary for the development of metastases and this may explain the frequent involvement of ovary when compared with other parts of female genitalia. Direct peritoneal spread or invasion of ovaries by retrograde flow through lymphatics can occur.

Primary ovarian lymphoma with absence of significant involvement of lymphnodes is still more rare. Walther (1934) Quoted by Ziegermann *et al,* (1956) was the first to report a case of primary lymphosarcoma of the ovary in a 54 year old female who presented with vaginal bleeding. Durfee *et al,* (1937) cited the example of a case with primary ovarian lymphoma who had no gynaecological complaint but presented with loss of weight. The patient was only 23 and survived only 12 days after the diagnosis.

The youngest age reported in the literature was 17 years (Ramachandran and Gracy, 1970). The average age in other reports was between 28-56 years. (Scarneechia and Mulla, 1960 and Collins and Piper, 1962).

In the present series of 3 cases the age was 20, 22 and 35 years. Two cases showed bilateral involvement (case 1 and 3) and case 2 showed unilateral involvement of right ovary. All the cases presented with pain and gradually growing lump in the lower abdomen. Two cases presented with ascites. Menstrual cycle was regular in all the cases. Omentum showed infiltration in case 3 and tubal infiltration was present in case 2.

The enormous size of the ovarian tumor, absence of involvement of any other viscera and insignificant enlargement of the abdominal lymphonodes show that our cases were primary lymphoma of the ovary.

Maximow and Bloom (1952) proposed the existence of primitive mesenchymal cell, ubiquitious in organ and tissue distribution and these cells may retain their pluripotentiality even in adult life. Extranodal lymphomas may arise from these cells and hence it is not necessary for lymphoid aggregates to be present in organs for primary lymphomas to develop.

Summary

Three cases of primary lymphosarcoma of the ovary (2 bilateral cases and 1 unilateral case) are reported. The literature is briefly reviewed.

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See Fig. on Art Paper IV