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Krukenberg Tumor

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Abstract:

Krukenberg tumor is an uncommon metastatic tumor of ovary. It accounts for 1%-2% of ovarian malignancies. Stomach is the most common site of primary tumor. Accurate diagnosis needs histopathological examination with thorough endoscopy to rule out primary ovarian tumor. Herein, an unusual case of 20 year old girl with bilateral ovarian masses is reported who underwent bilateral salpingo-oophorectomy and was diagnosed of Krukenberg tumor after histopathological confirmation.

Key words: Fallopian Tubes, Krukenberg Tumor, Ovarian Tumors, Ovariectomy, Endoscopy.

Introduction

Krukenberg tumor is a metastatic adenocarcinoma of ovary [1,2]. It is rare, accounts for 30%-40% of those tumors which secondarily metastasize to ovary. Metastasis is from gastric adenocarcinoma, especially at pylorus: 70% followed by bowel: 10%, breast: 4%, biliary system: 3%, appendix: 3% and remaining 3% from lungs, pancreas, bladder, renal pelvis and rarely cervix [1,3]. 80% cases have bilateral ovarian involvement [4]. Radiological evaluation may mimic other metastatic or primary ovarian tumors thus leading to difficulty in diagnosis [1]. They commonly occur in age group between 30-40 years and are rare after menopause. We present a case of 20 year old unmarried girl with gross ascites and pleural effusion with bilateral Krukenberg tumor.

Case Report

20 year old unmarried girl with 3 months history of ascites, pleural effusion and breathlessness was admitted. Further evaluation revealed bilateral large ovarian masses on ultrasound with raised CA-125 levels. Her laboratory values were normal except CA-125 more than 600 units/L which directed us toward diagnosis of malignant ovarian tumor. Patient was planned for laparotomy before which she underwent a therapeutic pleural fluid tap which showed raised lymphocytes count >70%, small clusters of reactive mesothelial cells but no neoplastic cells. She underwent bilateral salpingo-oophorectomy. Grossly right ovarian mass of 8x6x5 cm and left ovarian mass of 9x7x5 cm were seen with grey-white external surface having multiple nodules and bosselated appearance.

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Cut sections of both ovaries showed solid and cystic areas with serous fluid [Fig.1]. Histologically tissue had signet ring cells lying in clusters between ovarian stroma suggestive of Krukenberg tumor [Fig.2]. The omental and peritoneal biopsy did not show neoplastic cells. Based on histological findings bilateral Krukenberg tumor was diagnosed. Detailed radiologic and endoscopic examination of the digestive system was advised but patient died within 3 months.

Discussion

Paget in 1854 first discovered Krukenberg tumor. It was named after Friedrich Ernst Krukenberg when he studied cases with ovarian enlargement and found the primary site of tumor somewhere else than ovaries. Krukenberg tumor is an uncommon metastatic signet ring cell tumor of ovary that originates primarily in stomach [1]. This gastric cancer can be small enough to remain undetected even after several years of oophorectomy. Due to marked proliferation of the stroma grossly they may resemble fibrothecomas. Its incidence is 0.16/100,000. They contribute only 30%-40% i.e much less than that metastases from other ovarian cancers. Most common age group is between 30-40 years and are rare after menopause [5]. They commonly present with symptoms of ascites, bloating pelvic pain and sometimes with menstrual irregularities. Only 20-30% have prior history of stomach or colon cancer [6]. Our case was an unusual presentation with ascites, pleural effusion at the age of 20 years without any symptoms to direct us in its early detection. The diagnosis of this tumor largely depends on histological characteristics of signet ring cells arranged singly or in clusters with abundant cellular stroma [3].

Its diagnosis can be confused with other primary ovarian tumors like Sertoli-Leydig cell tumor, mucinous cystadenocarcinoma of ovary, clear

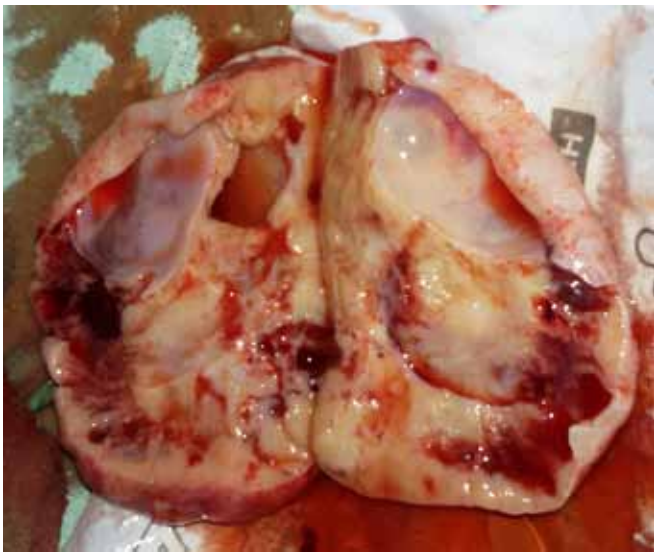

Fig.1: Intraoperative cut section of ovarian mass lying in the pouch of Douglas. Fallopian tube was found to be separate from mass.

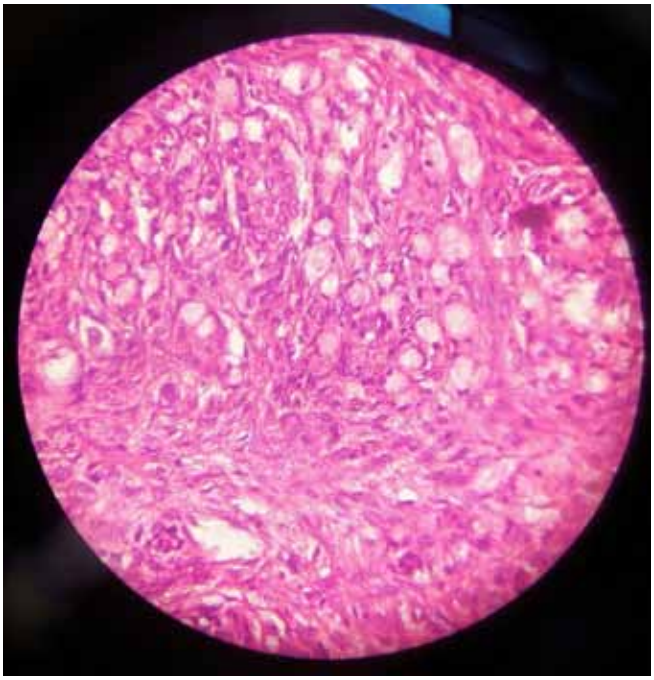

Fig.2: Histopathological slide of Krukenberg tumor.

cell carcinoma, sclerosing stromal tumor. Buts their gross and microscopic findings can rule out these lesions. Chemotherapy and radiotherapy have no significant prognosis [1].

Conclusion

Krukenberg tumor is a rare clinical entity. It is essential to rule out other ovarian malignancy to avoid the misdiagnosis and management of the Krukenberg tumor. Serum CA-125 level can help to predict the prognosis.

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