Case Report

Acute Abdomen secondary to torsion of Krukenberg tumour

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Abstract

Krukenberg tumour is a rare clinical entity. We report an unusual case of acute abdomen due to right sided adnexal torsion in a 23 year old nulliparous girl with bilateral Krukenberg tumour and primary gastric carcinoma. Possibility of Krukenberg tumour should always be kept in mind while managing ovarian tumours.

Keywords: Krukenberg tumour, Acute abdomen, Torsion.

Introduction

Krukenberg tumour is a metastatic signet ring cell adenocarcinoma of the ovary with primary lesion in the gastrointestinal tract or breast. It was first documented in 1896 by a German gynecologist Frederick Krukenberg, as a peculiar type of primary malignant tumour of the ovary, however the true metastatic nature of the tumour was revealed by the R.H Major in 1918. Krukenberg tumour is a rare tumour accounting for 1 to 2% of all ovarian tumours.[1] The incidence reported from Pakistani literature ranges from 0.7 to 1.58%.[2,3] Very high incidence of 29% was reported from Japan which may be attributed to high frequency of gastric cancer in Japanese population.[4]

The primary lesion of Krukenberg tumour is gastric cancer in most of the cases. Other reported primary sites are colon, appendix, breast and gall bladder.[5-7] Clinical signs and symptoms are usually attributed to ovarian involvement i.e. abdominal and/or pelvic pain and menstrual irregularity. Some patients may exhibit nonspecific gastrointestinal symptoms or remain asymptomatic.

We present an unusual case of acute abdomen due to bilateral Krukenberg tumours with primary lesion in the stomach.

Case Report

A 23 years old, unmarried, nulliparous staff nurse was admitted in the Department of Obstetrics and Gynaecology Unit-III of Liaquat University Hospital Hyderabad, Pakistan in emergency. She presented with a history of severe, sharp pricking lower abdominal pain, radiating to lower limbs with intractable vomiting since 12 hours. In a local hospital ovarian cyst was diagnosed by ultrasound examination, one week back. She had been suffering from epigastric pain, vomiting and constipation off and on, menorrhagia and weight loss for one year. The general physical examination revealed a young, anxious, pale looking, dehydrated female, distressed with pain. Her pulse rate was 99 beats /min and blood pressure 90/60 mm Hg.

Abdominal examination revealed tenderness, guarding and rigidity all over the abdomen along with a 16 weeks size firm mass palpable in hypogastrium with ill defined margins and limited mobility. Demonstrable ascites was also noticed. Ultrasound scan of pelvis and abdomen revealed normal sized uterus with bilateral solid ovarian tumours with cystic areas and mild amount of ascites. Laboratory studies showed mild anaemia (haemoglobin 9.4 g%), raised ESR (120mm first hour) and elevated total leucocyte count ($14.4x10x10^9$ L). Serum Ca 125 level was elevated (186.3 iu/ml) while other ovarian tumour markers i.e. Carcinoembryonic antigen (CEA) and serum beta hCG were found to be within normal limits. Provisional diagnosis

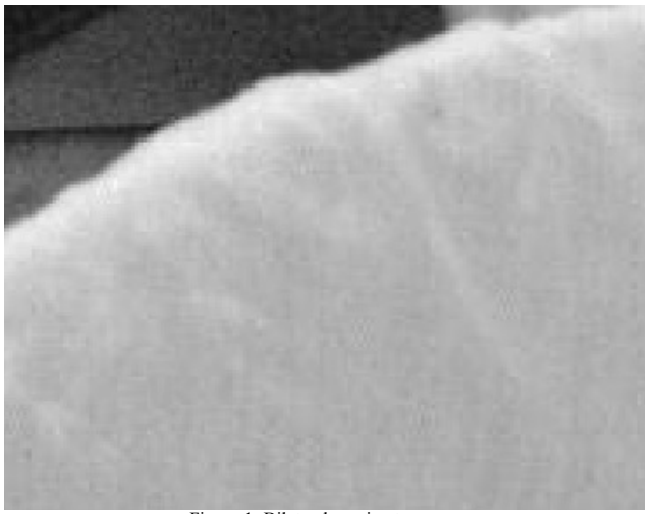

Figure-1: Bilateral ovarian tumours.

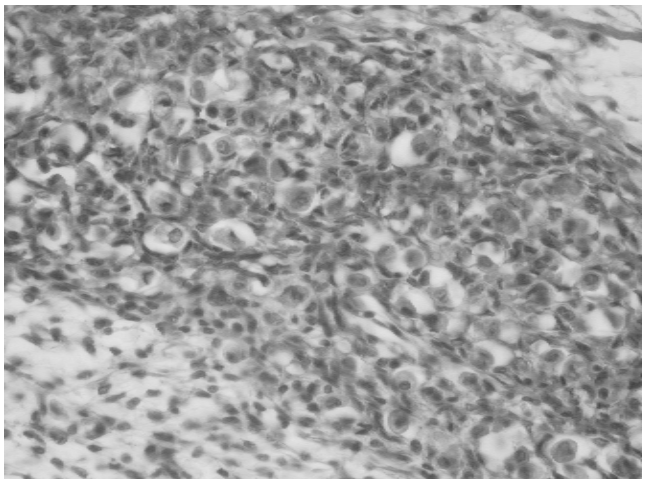

Figure-2: Histopathology of Ovarian Tumour showing Signet ring Cells.

of twisted ovarian cyst was made and laparotomy was performed next day after optimizing her general condition and counseling about the risks.

On laparotomy, bilateral, solid, grayish white, encapsulated ovarian tumours were found (Figure-1). Right sided ovarian tumour measured about 11×7 cm and left ovarian tumour measured 16×11cm. Right sided ovarian tumour was found twisted twice on its pedicle. Uterus was nuliparous and fixed anterioposteriorly up to isthmic region. Omentum was extensively covering the tumours. On further exploration of abdominal cavity, a growth was found involving the greater curvature of the stomach and splenic flexure of transverse colon. Liver was nodular, para aortic lymph nodes were palpable and mild amount of ascitic fluid was also seen. A provisional diagnosis of Krukenberg tumour was made and general surgeons were contacted. Subtotal abdominal hysterectomy and bilateral salpingo-oophorectomy was performed along with partial omentectomy and biopsy of the growth. No advanced surgery including gut was attempted because of extensive involvement of abdomen with malignancy. Post operative period remained uneventful and the CT scan confirmed the operative findings. Endoscopic guided gastric biopsy was taken post operatively. Histopathological report showed mucin filled signet ring cell in ovaries (Figure-2), omentum and stomach, confirming the diagnosis of Krukenberg tumour. Patient was referred to the oncologist where three doses of chemotherapy were given at monthly interval. She succumbed to death after three months of surgery.

Discussion

Krukenberg tumour is a unique type of malignant tumour, in which metastatic ovarian lesion usually exhibits the first manifestation of disease while the diagnosis of primary cancer is made during evaluation or management of ovarian lesion or even later.[5-7] An unusual presentation in this case were the symptoms of acute abdomen secondary to unilateral torsion of right sided ovarian tumour.

Besides obstetrical and gynaecological diseases, a variety of gastrointestinal and genitourinary conditions like appendicitis, urinary tract infection and peptic ulcer disease may be the underlying cause of acute abdomen in women of child bearing age. The commonly reported obstetrical and gynaecological causes of acute abdomen include ectopic pregnancy, ovarian cysts, adnexal torsion, pelvic inflammatory disease, endometriosis or degenerating uterine fibroids. Adnexal torsion is caused by the rotation of the ovary, tube or both on their pedicle and is responsible for 3% surgical emergencies in women. It is usually associated with an ovarian tumour, which is mostly benign; the commonest being a dermoid cyst.[8] Although rare, torsion of malignant ovarian tumour has been reported in the literature. A review of 20 years experience regarding torsion of malignant ovarian tumours in childhood and adolescence at tertiary care referral institution at Serbia showed 5 cases of malignant neoplasm out of 23 torsioned masses. Four were germ cell tumours and one was sex cord stromal tumour.[9] In another reported series, 22% cases of adnexal torsion were due to malignant neoplasms in postmenopausal women.[10] However, to the best of our knowledge, torsion of Krukenberg tumour has not been reported in the literature. Other predisposing factors for torsion of ovarian tumours are pregnancy, moderate size of tumour with a long pedicle which was not present in this presented case. Therefore torsion of this tumour was a chance finding.

Krukenberg tumour carries a poor prognosis without well established guideline for evaluation and management. Kim HK & Heo DS[11] in their study on the evaluation of prognostic factors reported median survival of 7.7 months. The only favourable prognostic factors affecting survival were limited disease extent and the absence of residual disease after treatment. The patient's age, size of ovarian tumour, initial stage of gastric adeno-carcinoma and relapse free interval do not have any impact on patient survival.[11] Literature review also pointed out other adverse prognostic factors like elevated serum Ca-125 levels (>75 iu/ml), stomach as the primary site of tumour and the diagnosis of primary lesion after the emergence of metastatic ovarian lesion.[1,12,13]

We were expecting short survival in the present case for several reasons. Firstly the primary tumour was gastric in origin and was diagnosed after ovarian lesion, secondly she had raised serum Ca-125 levels and thirdly the disease was wide spread at the time of surgery involving adjacent pelvic and abdominal structures making resection impossible.

Conclusion

Although a rare clinical entity, the possibility of

Krukenberg tumour should always be kept in mind while evaluating ovarian tumours in order to avoid potential hazards in the diagnosis and management of this deadly disease. The dictum of thorough abdominal examination during pelvic surgery should not be forgotten.

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