Case Report

Bilateral lobular breast cancer in a pregnant woman with bilateral krukenberg tumor - a very rare case report

Sibaprashad Pattanayak[1*], Subrata Pramanik[2], Sanjit Kumar Nayak[3], Sivashankar Behuria[4]

[1]Associate Professor, [2]Junior Resident, [3,4]Senior Resident, Department of Surgery, MKCG Medical College and Hospital, Berhampur 760004, Ganjam, Odisha, INDIA.
Email: sibaprashad234@gmail.com, subratamch@gmail.com

Abstract

Background: Krukenberg tumors in pregnancy are relatively very rare and their management can present a great dilemma for the obstetrician and oncologist. The situation becomes further complicated when the primary is bilateral lobular breast cancers. **Case Report**: We present the case of a G2P1 who presented to us at 34 weeks of gestation with bilateral massive Krukenberg tumors. She also had bilateral lobular cancers of breasts. Despite at surgery and chemotherapy she died 3 months postpartum. **Conclusion:** Early detection followed by surgery and chemotherapy could possibly result in a favorable outcome with such patients.
Keywords: Chemotherapy, Bilateral lobular breast carcinoma, Gestation, Krukenberg tumors, Postpartum

[*]**Address for Correspondence:**
Dr. Sibaprashad Pattanayak, Banchanidhi Nagar,, Khodasingi, Berhampur 760010, Ganjam, Odisha, INDIA.
Email: sibaprashad234@gmail.com
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INTRODUCTION

Invasive lobular carcinoma of breast is well known for metastasis to lungs and liver , but it is very unusual to present as metastatic ovarian tumour in a young pregnant woman.. Cases of bilateral krukenberg tumor during pregnancy has been reported in literature with dismal outcome. Nowhere in the literature, bilateral Krukenberg's tumor with bilateral lobular breast cancer during pregnancy is reported. This unique situation posed considerable difficulty in planning the treatment. This article aims at bringing up an awareness about this rare situation which a good clinician needs to know.

CASE REPORT

A 28 year old pregnant female in her third trimester was admitted in the Gynecology and Obstetrics department with pain in the lower abdomen for the preceeding one month. Ultrasonogram showed bilateral ovarian mass on either side, with a normally developed fetus in the uterus. Ultrasound guided fine needle aspiration cytology (FNAC) confirmed the masses to be of ovarian origin. She was also found with two lumps of 3 × 3 × 2 cm^3 size in upper outer quadrant of both the breasts which were invasive lobular breast cancer on core biopsy. . Possibility of primary from stomach was ruled out by upper GI endoscopy. The patient underwent bilateral oophorectomy under regional anesthesia as an immediate treatment for distension and pain.. Histopathology was reported as Krukenberg tumor of both ovaries. In the postoperative period the patient received one cycle of taxane and platinum based chemotherapy. (See figure-1 & 2). The patient delivered a normal full term baby. Few weeks after delivery, the patient came back with huge ascitis with features of renal failure and finally succumbed to her disease.

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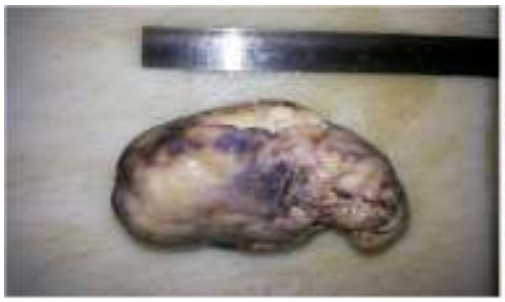

Figure 1: The Krukenberg tumor of the ovary sent for histopathology study

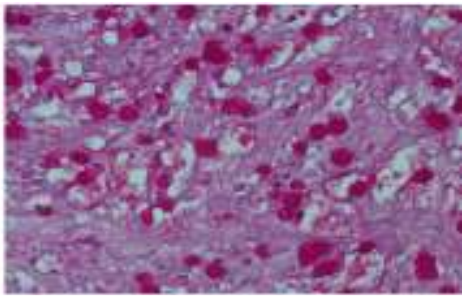

Figure 2: Histopathology showing krukenberg tumor.

DISCUSSION

Krukenberg tumors are metastatic ovarian tumors originating from various sites, account for about 0.7-6.7% of ovarian tumors and 10-30% of malignant ovarian tumors.[1,2] The primary origin sites are usually the gastrointestinal (GI) tract, including the stomach and colon, the gall bladder/biliary tract, breast and others. In both Asia and the West, most metastatic ovarian tumors originate from the GI tract. The primary organs responsible for krukenberg tumour differ in proportion between the Asian and the Western population..While de Waal *et al*[3] reported that the GI tract was the most common primary site (39%), followed by the breast(28%) and gynecologic organs (26%).], he opined the median age for metastatic ovarian tumors to be 49.5 (range, 24-79) while the mean age for primary ovarian cancer was 55 (range, 11-92). This is an unusual presentation of breast cancer, as tumour of the ovary. Extragonadal tumours spread to the ovary by direct extension, surface implantation, lymphatic or haematogeneous spread. 5-15% of malignant ovarian tumours are metastatic tumours.[4,5] These may be misdiagnosed as primary tumours, potentially leading to inappropriate management. The main radiological feature which differentiates a secondary from a primary ovarian neoplasm is multilocularity: only 36% of secondary ovarian neoplasms are multilocular on MRI, versus 74% of primary neoplasms.[6] Bilaterality is less discriminatory with 35% of primary ovarian tumours being bilateral compared with an overall 50% of metastatic ones. pathological features that are suggestive of metastatic diseases are: bilaterality, mild ovarian enlargement, vascular emboli, a Krukenberg morphology, no omental deposits and the absence of transition from benign to malignant epithelium.[7] Metastatic breast carcinoma in the ovary is bilateral in 60% of cases.[8] The involved ovary either contains multiple nodules of firm or gritty white tissue, or is completely replaced by a smooth or bosselated mass; very rarely the metastatic neoplasm is predominantly cystic. Lobular carcinoma of breast has a particular tendency to metastasise to the ovary, where it tends to retain its characteristic 'Indian-file' pattern. In a series reported by Le Bouedec *et al*,[9] the primary tumour type was invasive lobular carcinoma in 7 out of the 10 patients studied, despite this subtype comprising only 10% of breast cancers in general. Death usually ensues within 12 months after detection of clinically apparent ovarian metastases.[10] Mean survival time of over 20 months has been noted in patients in whom metastases were diagnosed only by histological examination of therapeutic oophorectomy specimens in historic series.[11] With the advent of modern hormonal and chemotherapeutic regimens, however, a considerably longer median survival would be expected. It has been estimated that up to 3% of breast cancers may be diagnosed in pregnant women.[12] Breast cancer associated with pregnancy presents the clinician with particular challenges. The diagnosis may be delayed and difficult owing to the physiological changes within the breast and limitations on investigations. Moreover once a diagnosis has been confirmed and staging completed, options for treatment will be influenced by the need to give optimal treatment to the mother whilst minimizing risks to the fetus. The particular challenges faced both in the initial diagnosis and management of women with pregnancy associated breast cancer. Pregnancy-associated breast cancer has long been regarded as having a poor prognosis, with the earliest reports describing 5-year survival rates of <20%.[13] Due to the rare nature of these tumors, there is no current standardization for the diagnosis and the treatment. Due to the rarity of the condition it is not appropriate to comment on the effect of tumor on pregnancy and vice versa. The role of debulking surgery and chemotherapy with platinum-based chemotherapy can be reasonable, and even relatively safe to be administered during pregnancy. But despite the interventions, usually the discovery of the presence of masses of the size that our patient exhibited the prognosis is poor as it generally represents an advanced stage disease, However, possible early detection with debulking surgery, possible hysterectomy with/without delivery, and platinum-based chemotherapy may improve the survival of these patients.[14]

CONCLUSION

Krukenberg tumor during pregnancy is a grave challenge to the obstretician and the oncologist. The disease is usually fairly advanced and the primary being the breast , the prognosis is still worse as in other cases of metastatic breast cancer. Decisions are crucial in presence of late pregnancy for debulking surgery , hysterectomy and chemotherapy.

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