

## Case Report

# Carcinoma breast presenting as a metastatic Kruckenberg tumor

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### ABSTRACT

Kruckenberg tumor is metastatic ovarian malignancy from primary gastrointestinal tract (GIT) or breast malignancy. Diffuse gastric carcinoma (linitis plastica) used to be the most common but lately there have been an increase in breast origin. It is usually found on carcinoma breast patients when we are evaluating for any metastasis. It is rare to find patients presenting with symptoms pertaining to metastasis, but not impossible. We are presenting such a rare case, where a patient presented with Kruckenberg tumor, which later was found to be a case of carcinoma breast. The prognosis of such patients are poor.

**Keywords:** Kruckenberg tumor, Carcinoma breast, Metastasis

### INTRODUCTION

Carcinoma breast is the most common malignancy in India.<sup>1</sup> Early diagnosis and multimodality of treatment with various options provides excellent results. However, few patients present with unusual presentations like metastasis as the primary symptom.

Such patients possess difficulty in diagnosis and carries poorer prognosis compared to those who present with classical presentation. Kruckenberg tumor is a known to be associated with carcinoma breast, which presents as abdominal mass, abdominal pain, etc.<sup>2</sup> Since it is more commonly associated with other malignancies than breast carcinoma, we tend to overlook breast carcinoma as one of the cause for the secondary ovarian deposits as more patients present primarily with breast lumps.<sup>3</sup>

Here author present one such case, who presented with kruckenburg tumor which was later identified to be of breast origin. The presentations, associations, management and prognosis of such patients are discussed along with the case.

### CASE REPORT

A 23-year-old unmarried girl was referred to the hospital with history of altered bowel habits, abdominal distension and vague pain. Examination showed a pelvic mass with pouch of Douglas deposit. Left supraclavicular node was enlarged. CT abdomen showed two well defined cystic lesions in both adnexa measuring 8.4 × 5.5 cm on right side and 5.3 × 2.9 cm on left side with internal septations, supplied by uterine and ovarian vessels. Ovaries could not be made out separately. Moderate ascites and bilateral moderate pleural effusion were made out.

Biopsy from pelvic deposits revealed Adenocarcinomatous deposit. With the differential diagnoses of advanced primary epithelial malignant ovarian tumor and ovarian metastasis from primary elsewhere, further workup was done.

CA-125 was elevated (309 JU/ml). AFP and beta HCG were normal. Upper GI endoscopy showed a normal study. Colonoscopy showed normal rectum, sigmoid and descending colon.

Later on, the patient developed bilateral breast fullness which on examination showed lump both breasts with skin edema and engorged veins. Biopsy from the lump was reported as invasive lobular carcinoma. She was diagnosed to have bilateral carcinoma breast with kruckenberg tumor deposit involving both the ovaries. The patient was then started on palliative chemotherapy.

## DISCUSSION

Kruckenberg tumor is metastatic neoplasm to the ovary consisting of mucin secreting signet ring cells; this accounts for 30-40% of metastatic cancers to ovary and possibly 1-2% of all malignant ovarian tumors.<sup>4,5</sup> The stomach is the primary site in 70% of cases. The colon, appendix and breast (mainly invasive lobular carcinoma) are the next most common primary sites. A history of primary tumor can only be obtained in 20-30% of the cases.

The exact mechanism of metastasis of the tumor cells is debatable. It was thought that spread was through direct seeding (trans coelomic) across the abdominal cavity. But recently, some researchers suggested that lymphatic or hematogenous spread is more likely. As most of these tumors are found inside the ovaries, tumor cells are found within the ovary and are not growing inwards.<sup>6,7</sup>

Women in the fifth decade of their lives present with abdominal pain, distension and nonspecific GI symptoms. Virilization can occur resulting from ovarian stromal hormone production. Ascites is present in 50% of cases.<sup>6</sup>

Imaging with computed tomography and CA125 guide in the diagnosis.<sup>11</sup> Both ovaries are involved in >80% of cases. Capsular surface of the ovaries are typically smooth free of adhesions or peritoneal deposits (other metastatic tumors to ovary tend to be associated with surface implants).

Prognosis is poor, has only 5-10% 5-year survival rates. Most patients die within 2 years (median survival - 14months). Prognosis is still poorer, when the primary tumor is identified after the metastasis to the ovary is discovered. Prognosis becomes worse if the primary tumor remains covert.<sup>8-11</sup>

There is no established treatment for Kruckenberg tumors. Chemotherapy or radiotherapy has no significant effect on prognosis of patients with Kruckenberg tumors.<sup>9</sup> Prophylactic treatment by bilateral oophorectomy at the time of operation of the primary tumor has been considered by some authorities but this requires further study and evaluation.<sup>12,13</sup>

## CONCLUSION

Bilateral metastatic ovarian tumor from bilateral carcinoma of breast in young female is a rare entity. Carcinoma breast presenting as Kruckenberg tumor carries poor prognosis. Careful evaluation of breast and GIT in young females presenting with ovarian malignancy with adenocarcinomas deposit is essential before diagnosing primary ovarian malignancy since primary epithelial ovarian malignancy is uncommon in young females.

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