



## MALIGNANT GASTRIC TUMOR WITH KRUKENBERG PRESENTATION- A CASE REPORT.

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### ABSTRACT

**Introduction-**Stomach is the primary site in the majority (75%) of Krukenberg tumor followed by colon, appendix, and breast carcinoma. It is a rare metastatic signet ring cell tumor of the ovary, accounting for 1-2% of all ovarian tumors. **Case presentation-**We present a case of 48 years postmenopausal female who presented in Radiotherapy OPD with complaint of pain abdomen, constipation. Ca 125 was 761.2. Gastric biopsy shows signet ring cell carcinoma. Now the patient is to be planned for chemotherapy. **Conclusion-**Most of these cases originate from gastric adenocarcinoma, followed by the colon. The involvement of the ovary may be due to retrograde lymphatic spread. Peritoneal dissemination demonstrated as an adverse factor affecting survival. Through this case, we conclude that Krukenberg tumor of the ovary is a rare metastatic tumor with most commonly gastrointestinal tract being the primary carcinoma.

**KEYWORDS :** Krukenberg tumor, signet ring cell carcinoma, gastric adenocarcinoma.

### INTRODUCTION

Krukenberg tumor is considered as a late-stage disease with poor prognosis accounting for 5 to 30% of metastatic cancers to the ovaries.[1] Approximately 5% of all carcinomas metastatic to the ovaries are adenocarcinoma with signet ring cells.[2,3]

Gastric carcinoma usually occurs between 40 and 60 years of age. It is histologically characterized by increased intracellular mucin production leading to a signet ring cell differentiation in tumor cells. The route of metastasis is mainly due to retrograde lymphatic spread.[4]

Hereby, we report a rare case presentation of gastric carcinoma with Krukenberg tumor presented with symptoms of gastric outlet obstruction.

### Case report-

A 48 years old married, post menopausal woman presented with a two and a half months history of abdominal pain, which was gradual in onset, colicky in nature and non-radiating in nature. It was also accompanied with constipation and nausea. Finally, the patient presented with intestinal obstruction during the last hospital admission for which she was treated conservatively.

CECT whole abdomen showed hepatomegaly (span 18.2), moderate ascites along with enlarged mesenteric lymph nodes (fig1).

Ascitic fluid cytology showed ADA-34IU/L (Normal-<43IU/L), LDH-238 (Normal-225-450), On microscopy there was increased N:C ratio with few signet ring cells and occasional tumour giant cells. Colonoscopy shows ileal thickening.

Tumour markers were as follows Ca 125- 761.2, Ca 19.9- 6.4, CEA- 0.3 and ADA-15.5 U.

Gastric biopsy shows signet ring cell carcinoma. Review blocks/slides (gastric ulcer/ileal biopsy)- features of malignant pathology, signet ring cells (fig 2)

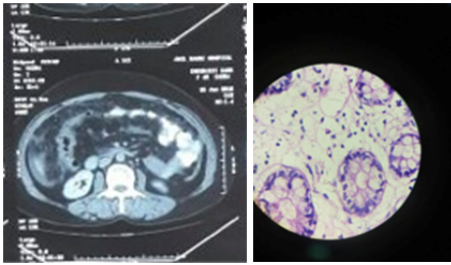
Now patient is under conservative treatment for intestinal obstruction and to be planned for chemotherapy (FOLFOX based).

### Discussion-

Krukenberg tumour is a metastatic signet ring cell

adenocarcinoma accounting for 1% to 2% of all ovarian tumours.[5] Most of the cases originate from gastric adenocarcinoma, followed by the colon.[1,3] However, recent observations have reported a higher incidence of colorectal rather than gastric origin and, in particular, more frequently from the colon rather than the rectum.[7] Only 2% of all women with gastric cancer develop ovarian metastasis. Krukenberg tumor typically present as large, bilateral, solid ovarian masses, with clear well - defined margins and ascites. Krukenberg tumors have well defined histologic characteristics carcinoma with signet-ring cells and stroma with sarcomatoid reaction. It usually presents in younger females with average age-group of 40-45 years [3] Krukenberg tumors were more common in premenopausal women (75%) rather than in postmenopausal women. It was reported that patients with Krukenberg tumor were younger compared with those who had primary ovarian cancer, whereas the functioning ovary was prone to metastatic disease due to the rich ovarian blood supply predisposing to hematogenous metastasis.[6] Patients usually present with symptoms related to ovarian involvement such as abdominal pain and distension. Ascites is usually present in 50% of cases.[3] All these criterias were seen in our case reported. The most common gastric malignancy is gastric adenocarcinoma. Gastric adenocarcinoma arises from the gastric epithelium and is the most common malignancy of the stomach, instituting 90% of cases. Rich lymphatics draining gastric mucosa and submucosa initiating retrograde lymphatic spread to ovary is mostly accepted theory. Carcinoma of the stomach is not only common but also a severe disease that is most often detected in an advanced stage, with a low survival rate that depends on the differentiation of the malignant and stage of the disease. The involvement of the ovary, which is most commonly bilateral and can reach huge proportions, is thought to be the consequence of selective retrograde lymphatic spread of the primary tumor along the stomach ovarian axis.[5] The prognosis of patients with Krukenberg tumour is extremely poor with a median survival time of 14 months.[3] Only 10% of patients survive more than 2 years after diagnosis.[4] Peritoneal dissemination was reported as an adverse factor affecting survival.[8] The patient discussed in the case report also presented at a later stage with advanced primary disease and bilateral ovarian metastasis. The patient also had gastric outlet obstruction. We can conclude from this scenario that Krukenberg tumor of the ovary is a rare metastatic tumor in young to middle-aged women with most commonly gastrointestinal tract being the primary followed by breast

carcinoma. The pathophysiology of spread is still unclear. Due to vague presenting symptoms the diagnosis is often delayed leading to a dismal prognosis. Early intervention in gastric & colorectal malignancy with a cautious lookout for vague abdominal symptoms with a simple procedure like abdominal ultrasounds may prove helpful.



**Fig1- CT scan showing peritoneal deposits Fig2- signet ring cells in gastric biopsy.**

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