

An Unusual Presentation of Krukenberg's Tumor Secondaries as Subacute Intestinal Obstruction

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Citation

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Abstract

Subacute intestinal obstruction due to secondaries in the intestine is uncommon. Krukenberg's tumor is an uncommon metastatic tumor of the ovaries. Krukenberg's tumor contributing as primary to secondaries in the intestine is also uncommon. We report such an unusual case at our institute where a female operated for Krukenberg's tumor one year back presented with intestinal obstruction due to extensive secondaries involving intestines and ileo-cecal junction.

CASE HISTORY

A 42-year-old female housewife presented with pain in the lower half of the abdomen, on & off for the last 12 months. She had nausea and vomiting. Her bowel habits were altered and progressively she was passing stools in decreasing quantities. Her urinary habits were within normal limits.

The patient had pulmonary tuberculosis few years back for which she took anti-tuberculous treatment for one year. One year back, she was operated for an ovarian malignancy, which was later diagnosed as Krukenberg's tumor. She was not put on any treatment for that.

In our hospital, the patient presented with a subacute type of small- intestinal obstruction. Along with conservative treatment, she was investigated thoroughly. Her 'thin Barium meal follow-through' showed a terminal ileal stricture with dye not entering the ileo-caecal (I-C) junction and a colon with proximal dilatation. CT scan of the abdomen showed terminal ileal pathology. The patient's CA-125 levels were less than 75 U/ml. A decision to explore the patient was taken.

At exploratory laparotomy, there was ileo-caecal induration, stricture and terminal ileal dilatation. The entire serosa was studded with fibrous nodules involving the mesentery. There was no ileal stricture. The ascending colon was normal. The liver showed a single palpable nodule in segment V. There was 150cc serosanguinous free fluid present in the peritoneal cavity. The appendix was absent; it had been removed during her previous surgery. An ileo-cecal resection with ileo-ascending colon anastomosis was done.

On gross pathology, the specimen showed firm nodules in all coats of the ileum and a deformed ileo-caecal junction.

On histopathology, it revealed signet-ring cell type advanced secondary adenocarcinoma involving the small intestine arising probably from a Krukenberg's tumor of the ovaries. The possibility of tuberculosis was ruled out.

Postoperative recovery was uneventful and the patient was discharged on the 8th postoperative day after complete suture removal. The wound healed well and the patient remained asymptomatic.

A decision to administer a platinum-based chemotherapy was made. The patient completed her chemotherapy without any side effects. Now, at 5 years follow-up, the patient is healthy and asymptomatic.

DISCUSSION

In 1896, Friedrich Krukenberg, a German gynecologist and pathologist, described what he presumed was a new type of primary ovarian neoplasm. The true metastatic nature of this lesion was established six years later. Some 5-10% of all ovarian malignant lesions were regarded as metastatic. Of them, approximately 50% were Krukenberg tumors, which had well defined histologic characteristics (carcinoma with signet-ring cells and stroma with sarcomatoid reaction)(1).

Krukenberg tumor is secondary to a neoplastic process in the gastrointestinal tract. The stomach is the commonest primary site (2% of all women with gastric cancer develop ovarian metastasis), followed by the colon. Gallbladder, biliary ducts

and appendix can also be the site of the primary neoplasm. In a variable percentage, the primary tumor remains unknown. The incidence of Krukenberg tumor is approximately 0.16/100.000 per year, and at presentation the adnexal tumors tend to be large, bilateral and associated with ascites (2).

The time from diagnosis of the primary neoplasm to the development of ovarian metastasis is variable, from several months to more than 10 years, and can even precede the diagnosis in 20% of the patients, which are usually in the fifth or sixth decade of life (3).

In India, Krukenberg's tumor typically presents as bilateral, solid ovarian masses, with clear well-defined margins. An irregular hyperechoic solid pattern and moth-eaten-like cyst formation are also characteristic, allowing with some confidence to distinguish these lesions from primary ovarian neoplasms. A relatively prominent vascular signal along the wall of the intramural cysts in a predominantly solid ovarian mass has also been described as a suggestive finding. Ascites is also frequent at presentation. CA-125 helps as an important investigating and prognostic tool (4).

CT scan of abdomen and pelvis shows solid masses and frequently intratumoral cysts, with strong contrast enhancement, a pattern that allows a differential diagnosis with primary ovarian cancer, where such a marked enhancement of the cyst walls is absent.

Treatment of ovarian Krukenberg's tumour consists of total abdominal hysterectomy with bilateral salpingo-oophorectomy. The gastric and intestinal cancers should be resected according to their staging.

A combined chemotherapy regime of CDDP, 5-FU & lentinan is used. Postoperatively. CDDP is given iv at 20mg/body sq.metres/day on day one to five. At the same time, 5-FU should be infused at 250-500mg/body sq.metres/day for more than two weeks. Lentinan – 2mg per week. This course should be repeated twice after intervals of 3 weeks.

This combination is very effective. The median survival rate is 13 months with no recurrence signs and good postoperative quality of life.

Immunohistochemical evaluation may aid in distinguishing

primary ovarian carcinomas from metastatic carcinomas. Cytokeratin 7 and 20 (CK7 and CK20) immunophenotype is the most commonly used analysis. Primary ovarian carcinomas are almost always immunoreactive to CK7 (90%–100%) but generally are not immunoreactive to CK20.

By contrast, metastatic gastric carcinoma tends to be less frequently positive for CK7 (55%) but is positive for CK20 in approximately 70% of cases. Colorectal adenocarcinomas are usually negative for CK7 but positive for CK20 in most cases. Tumors metastasizing from the appendix are commonly positive for CK20 but positive also for CK7 in 50% of cases.

Therefore, a CK7⁺/CK20⁻ immunophenotype favors a primary ovarian carcinoma, whereas a CK7⁻/CK20⁺ or CK7⁺/CK20⁺ immunophenotype (CK20 positivity, in particular) favors a metastatic gastrointestinal carcinoma (6).

Our patient had involvement of the I-C junction with Krukenberg's tumour, the exact incidence of which is unknown. Her CA-125 was less than 75 U/ml, which is incidental with her prolonged survival. Thus our case stands unique in this aspect.

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