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CASE REPORT

Primary Ovarian Carcinoma with Rectal Metastasis—a Rare Presentation (a Case Report)

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Abstract

Rectal metastasis from primary ovarian cancer is a rare condition. In this case report, we present a case of 45-year-old female presented with chief complaint of pain abdomen and vomiting and with on and off history of per rectal bleeding. On examination, patient was pallor, hemoglobin level of 5.5 for which she was admitted. On per rectal examination, there was circumferential rectal growth around 7 cm from anal verge. Imaging was suggestive of ovarian lesion with rectal growth. Biopsy and immunohistochemistry of rectal growth was suggestive of metastatic well-differentiated papillary adenocarcinoma probably of ovarian origin. In view of its rare presentation, we want to report this case.

Keywords Rectal metastasis · Primary ovarian tumor · Papillary adenocarcinoma

Introduction

Ovarian carcinomas are heterogeneous group of tumors with diverse presentations. Most of the ovarian cancers are diagnosed at advanced stages, with only around 20% of cases confined to ovaries at diagnosis [1]. Around 90% of ovarian malignant tumors are epithelial in nature, thought to arise from surface epithelium [2].

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The biological behavior and pattern of metastasis are unique in primary ovarian carcinoma that they metastasize by a passive mechanism. Cells of ovarian tumors get detached and these are carried by peritoneal fluid and get seeded at organ of metastasis [3].

Ovarian carcinomas usually present with locally advanced disease with extension to fallopian tubes, uterus, sigmoid colon, omentum, and peritoneal cavity through exfoliation of tumor cells in the peritoneal fluid [4]. Isolated rectal metastasis from a primary ovarian carcinoma is a rare entity.

Case Capsule

A 45-year-old female presented to out-patient department with chief complaint of pain abdomen, vomiting, and bleeding per rectum. On examination, patient was pallor and had no icterus and evidence of supraclavicular lymph node. There was a mild abdominal distension, per-rectal examination was suggestive of hard circumferential growth around 7 cm from anal verge, upper limit could not be reached, and per-vaginal examination was suggestive of pelvic mass.

Hemoglobin was 5.5 g/dl for which she received transfusion. Colonoscopy was suggestive of rectal growth from around 6 cm from anal verge beyond which scope could not be negotiated; biopsy was taken.

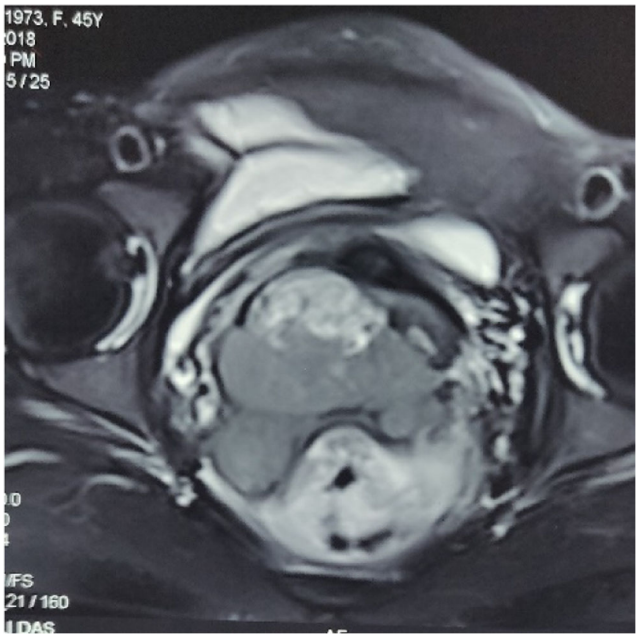

Fig. 1 MRI image showing rectal and ovarian lesion

Magnetic resonance imaging of pelvis showed rectal growth with pararectal fat streakiness with ovarian mass (Fig. 1). Ca-125 was 200 units/ml; carcinoma embryogenic antigen was 1.51 ng/ml.

Biopsy of rectal growth as seen in high power (Fig. 2) and low power (Fig. 3) field was suggestive of well-differentiated papillary adenocarcinoma and dilated lymphovascular spaces with tumor emboli. Immuno histochemistry was negative for cytokeratin-20 (Fig. 4) and positive for cytokeratin-7 (Fig. 5) suggestive of primary ovarian pathology.

The case was discussed in institutional tumor board and was planned for neoadjuvant chemotherapy followed by assessment for surgery.

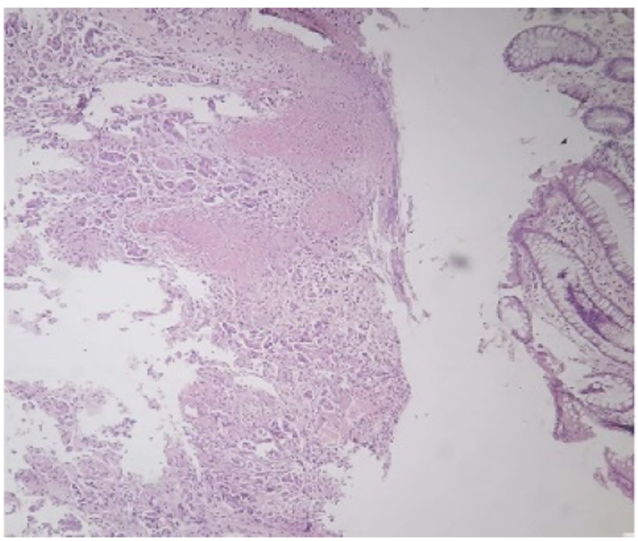

Fig. 2 High-power histopathological image of rectal tumor

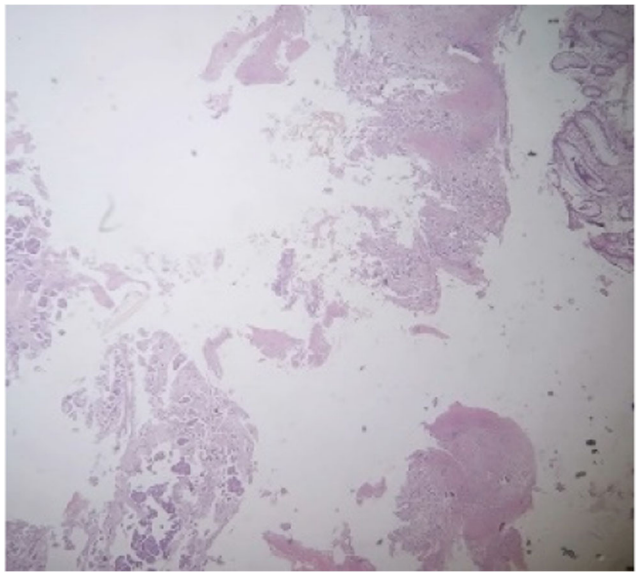

Fig. 3 Low-power histopathological image of rectal tumor

Discussion

Isolated rectal metastasis from a primary ovarian carcinoma is a rare entity. Ovarian carcinomas are heterogeneous group of tumors with diverse presentations. Most of the ovarian cancers are diagnosed at advanced stages, with only around 20% of cases confined to ovaries at diagnosis [1]. Around 90% of ovarian malignant tumors are epithelial in nature, thought to arise from surface epithelium [2].

The biological behavior and pattern of metastasis are unique in primary ovarian carcinoma that they metastasize by a passive mechanism. Cells of ovarian tumors get detached and these are carried by peritoneal fluid and get seeded at organ of metastasis [3].

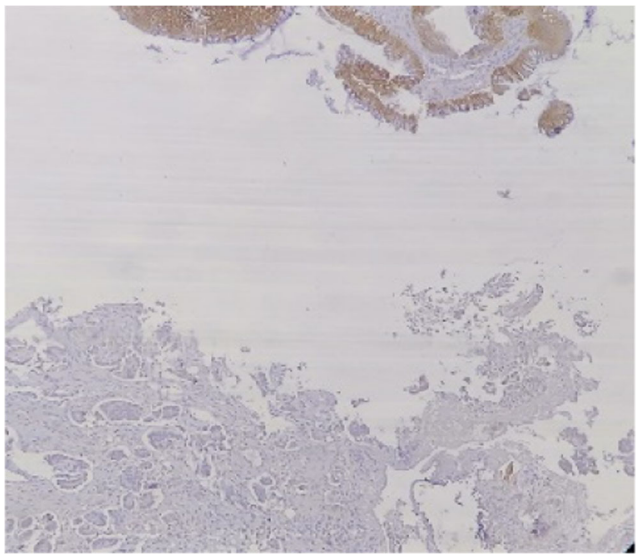

Fig. 4 IHC image: CK20 negative

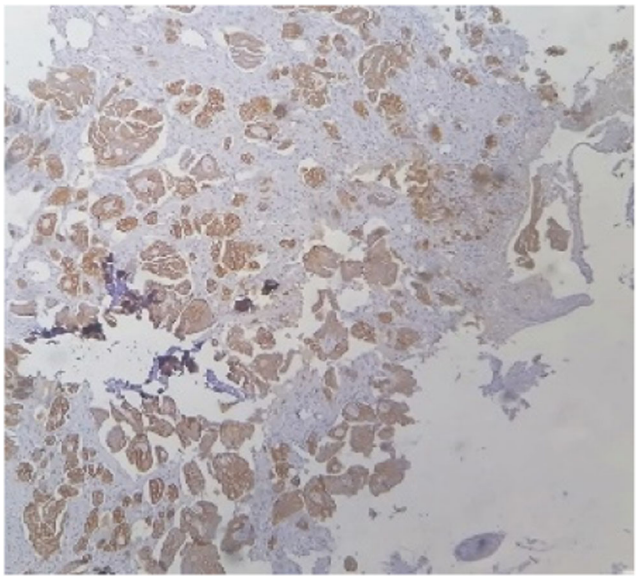

Fig. 5 IHC image: CK7 positive

Ovarian carcinomas usually present with locally advanced disease with extension to fallopian tubes, uterus, sigmoid colon, omentum, and peritoneal cavity through exfoliation of tumor cells in the peritoneal fluid [4].

Epithelial to mesenchymal transition occurs before ovarian cells detach and metastasize. This leads to loss of e-cadherin-mediated cell to cell interactions and upregulation of other cadherins. This transformation allows cells to acquire invasive phenotype which can survive even in compromised hypoxic conditions [5–8].

Postulates of Graffner et al. show that there is no lymph flow between ovary and rectum, the possible metastatic pathways that could contribute are hematogenous and peritoneal pathways of dissemination [9].

Treatment of rectal metastasis from primary ovarian origin is controversial in view of rarity of condition and limited data available for such a scenario. Japanese guidelines for colorectal cancer treatment recommend that surgery can be advocated if patient can tolerate resection of both primary and metastatic lesion [10]. Patients may be planned for neoadjuvant chemotherapy with common drug combinations for both for down staging of lesion and then assessment for surgery.

Conclusion

Isolated rectal metastasis from a primary ovarian carcinoma is a rare entity. Patients may present as primary rectal lesions. Hence, proper preoperative evaluation of gastrointestinal tract and pelvis should be done in tumors of ovarian and colorectal origin to rule out any synchronous lesions to plan optimal treatment.

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