

# Laparoscopic evaluation of metastatic ovarian cancer: A case report

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## Summary

**Objective and case:** Both noninvasive and invasive methods have limited value in the diagnosis of metastatic ovarian cancer. We present a case with the initial complaint of abdominal distention in whom primary and metastatic tumor sites were safely diagnosed by using laparoscopy: a gastric tumor with ovarian metastasis.

**Discussion:** Diagnostic laparoscopy by the open technique provides a safe and effective diagnostic option in patients with metastatic ovarian cancer.

**Key words:** Metastatic ovarian cancer; Laparoscopy; Gastric cancer.

## Introduction

Most metastatic ovarian cancers originate from the gastrointestinal tract, breast, or gynecologic organs [1]. Among these, gastric tumors are distinguished by their poor prognosis [2]. Not only noninvasive methods like magnetic resonance imaging (MRI) or computed tomography (CT), but also invasive methods such as endoscopy have limited value in the diagnosis of metastatic gastric tumors [3]. We present a case in whom primary and metastatic tumor sites were safely diagnosed by using laparoscopy: a gastric tumor with ovarian metastasis.

## Case Report

A 24 year-old-nulligravida came to the Internal Medicine Outpatient Clinic of Istanbul Medical Faculty with the complaint of abdominal distention persisting for the previous two months. Her physical examination revealed a markedly distended abdomen due to splenomegaly and ascites extending above the umbilicus. The rest of the examination was unremarkable. She was hospitalized for further work-up of her ascites and splenomegaly.

Although paracentesis of ascitic fluid was found to be a transudate, cytologic examination, repeated twice, showed adenocarcinomatous cells of unknown origin. Complete blood count, biochemical parameters, and hormonal profile were all normal. Serum levels of tumor markers were CA125: 322.9 IU/l, CA19-9: 4591 IU/l, CA15-3: 23.1 IU/l, AFP: 1.67 ng/ml. Abdominopelvic MRI revealed ascites, non specific thickening of the gastric wall, a smooth countered solid mass of 2.5 x 3 cm in the right ovary and a thick walled cystic mass of 2.5 x 3 cm in the left ovary. The Gynecologic Oncology Council decided that diagnostic laparoscopy would be appropriate in order to understand the nature of her ovarian pathology.

During the operation, the open diagnostic laparoscopic technique was used to enter the abdominal cavity. Some of the nearly 1,500 ml of ascites were sampled for cytologic exami-

nation. The uterus was normal in size and appearance. Both ovaries were 3-4 cm in size, smooth contoured and lobulated due to the yellowish tumoral implants visualized on their surfaces. Tumoral implants of a few millimeters in size were also seen diffusely on the peritoneal surfaces. The tumoral implants on both ovaries were biopsied and sent for immediate examination. Frozen-section examination revealed metastatic adenocarcinoma and malignant tumoral infiltration. After a thorough search during the operation with general surgeons, a tumoral mass originating from the gastric antrum adhering to the inferior surface of liver was located. Biopsies from this mass were reported to be gastric adenocarcinoma, so the operation was ended. The final pathology report was signet cell metastatic ovarian carcinoma. The patient was discharged on the second postoperative day. Outpatients endoscopic evaluation performed later confirmed the intraoperative diagnosis.

## Discussion

Metastatic ovarian cancers are rare in incidence and difficult to diagnose. Among these, gastric tumors frequently metastasize to the ovaries. These tumors are usually seen in premenopausal women and are distinguished from other metastatic ovarian cancers by their poor prognosis [4]. Even though the most recent radiodiagnostic methods and endoscopic techniques are used, clinician may miss the diagnosis of a primary gastric tumor [3]. In addition, all the difficulties encountered in the diagnostic process negatively affect the overall prognosis. Therefore, it should be emphasized that these patients should be evaluated in tertiary medical care units by properly trained personnel.

Among the primary diagnostic modalities, gastroscopy has a false negativity varying from 0.4% to 2.7% in different studies [3, 5]. The false-negativity ratio was reported as high as 30.9% in a study performed in China [6]. Due to the young age and the finding of adenocarcinomatous cells in the ascitic fluid of our patient and to fully evaluate the abdominal cavity, laparoscopy instead

of gastroscopy was chosen as the initial diagnostic procedure. However, the probability of metastatic ovarian cancer arising from the gastrointestinal tract was also not highly taken into consideration.

Non-gynecologic primary tumors metastasizing to the ovaries are usually seen in young premenopausal women. In our department data, the mean age is 41.8 years in these patients and the tumors are usually bilateral and no other pathologic findings can be recognized in the ultrasonographic examination apart from a modest increase in ovarian volume [2]. In 58% of cases studied by Mc Gill *et al.* and in 29% of our data no lesion was seen ultrasonographically [7]. CA125 levels are usually elevated. Therefore in young patients with bilateral ovarian lesions or in patients with ascites and without prominent ovarian pathology, possibility of metastatic ovarian cancer should be seriously considered.

The prognosis of gastric tumors is rather poor and radical surgery performed in these patients does not add any beneficial effect to their survival rate. Overall quality of life is also negatively affected by the morbidity of surgery. Bearing that in mind, gynecologic surgeons should consider the possibility of metastatic ovarian cancer with a high index of suspicion and should avoid any unnecessary intervention that would increase morbidity. Hence, the diagnosis should be reached with the least number of possible invasive methods: Diagnostic laparoscopy provides a safe and effective diagnostic option in these patients. In order to avoid possible complications while inserting trocars, the open laparoscopic technique may be preferred over the conventional technique.

Diagnostic open laparoscopy can be safely used in searching for the origin of malignancy in patients present-

ing with metastatic carcinoma referred to gynecologic oncology centers. It seems to be an ideal method compared to laparotomy, with less morbidity and mortality.

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