wjpmr, 2025, 11(7), 145-147

SJIF Impact Factor: 6.842

WORLD JOURNAL OF PHARMACEUTICAL AND MEDICAL RESEARCH

www.wjpmr.com

Research Article

ISSN 2455-3301

WJPMR

GASTRIC METASTASIS OF OVARIAN ADENOCARCINOMA

[1]*Ntama Dauphin, [2]Kahouadji Fatima Zahra, [3]El Amraoui Meryem, [4]Chebli Najwa, [5]Benzerouale Waele, [6]El Ghissassi Ibrahim, [7]Boutayeb Saber, [8]M'rabti Hind and [9]Errihani Hassan

[1]Ntama Dauphin, Department of Medical Oncology, National Institute of Oncology Rabat Morocco.
[2]Kahouadji Fatima Zahra, Department of Medical Oncology, National Institute of Oncology, Rabat Morocco.
[3]El Amraoui Meryem, Department of Medical Oncology, National Institute of Oncology, Rabat Morocco.
[4]Chebli Najwa, Department of Medical Oncology, National Institute of Oncology, Rabat Morocco.
[5]Benzerouale Waele, Department of Medical Oncology, National Institute of Oncology, Rabat Morocco.
[6]El Ghissassi Ibrahim, Department of Medical Oncology, National Institute of Oncology, Rabat Morocco.
[7]Boutayeb Saber, Department of Medical Oncology, National Institute of Oncology, Rabat Morocco.
[8]M'rabti Hind, Department of Medical Oncology, National Institute of Oncology, Rabat Morocco.
[9]Errihani Hassan, Head of Medical Oncology Department, National Institute of Oncology, Rabat Morocco.

***Corresponding Author: Ntama Dauphin**

Ntama Dauphin, Department of Medical Oncology, National Institute of Oncology Rabat Morocco.

Article Received on 30/04/2025 **Article Revised on 21/05/2025** **Article Published on 11/06/2025**

ABSTRACT

Gastric metastases of ovarian adenocarcinoma are rare. Secondary localizations of ovarian cancer are known in the literature and are often reported. Immunohistochemical analysis remains essential for making a differential diagnosis with a gastric primary, despite the inconsistent reactivities of the main immunohistochemical markers.

KEYWORDS: Gastric metastasis, immunohistochemistry, ovarian adenocarcinoma.

I. INTRODUCTION

Metastatic localization of ovarian adenocarcinoma is exceptional, with only a few isolated cases reported in the literature.[1-2] On the other hand, ovarian metastases of gastric origin are the best known (Krukenberg tumor). Autopsy studies have revealed frequencies of 0.7 to 1.8% of these metastases of ovarian origin.[3-4]

A study carried out at the Institut Gustave Roussy (IGR) on 12,000 patients investigated by upper digestive endoscopy found only 17 cases of gastric metastases, i.e. a frequency of 0.83%.[5]

II. PATIENT AND MEDICAL OBSERVATION

This is a 47-year-old woman who underwent surgery in 2017 for symptomatic lithiasis cholecystitis discovered on ultrasound; she underwent retrograde cholecystectomy with careful electrocoagulation. In addition, exploration revealed incidental nodules in the right subdiaphragmatic region, under the round ligament and others in the mesenteric region, which were biopsied.

Histological analysis of the cholecystectomy specimen revealed acute cholecystitis on a chronic background with no sign of malignancy, and histological analysis of the nodules revealed poorly differentiated carcinomatous proliferation. Immunohistochemistry was consistent with a poorly differentiated adenocarcinoma of primary ovarian serous origin.

A thoraco-abdominal CT scan showed ovarian tumoral masses with early carcinosis and no other secondary localizations, notably hepatic or pulmonary.

The patient underwent neoadjuvant chemotherapy, followed by hysterectomy with ommentectomy, lymph node dissection and appendectomy. Histological analysis was consistent with bilateral high-grade ovarian serous cystadenocarcinoma with peritoneal metastases classified as stage ypT3bN0 (TNM classification 8th edition and FIGO 2009). She subsequently underwent adjuvant Paclitaxel-Carboplatin chemotherapy.

The patient remained under good clinical and radiological control until July 2020, when she presented with pelvic pain associated with vomiting plus an altered general condition. She was admitted to hospital and a thoraco-abdomino-pelvic CT scan was performed, showing two peritoneal masses, interpancreatico-gastric and left iliac, in favour of carcinosis masses. She underwent a first line of Gemcitabine-Carboplatin chemotherapy. Given the persistence of vomiting for a month and the onset of epigastralgia, an

oesogastroduodenal fibroscopy was performed and concluded to be a fundic gastric ulcer with an aspect of malignancy. Antral and subcardial biopsies were taken:
- Intestinal biopsies: chronic gastritis, absence of intestinal metaplasia or signs of dysplasia.
- Biopsy of subcardial ulcerating lesions: subcardial localization of poorly differentiated, infiltrating carcinomatous proliferation with an immunohistochemical profile compatible with ovarian origin (CK7+ CK20- CDX2-).

However, the 1st line of chemotherapy was not tolerated by the patient, with recurrent neutropenia. Given the poor tolerance of chemotherapy and deteriorating general condition, it was decided at a multidisciplinary consultation meeting to institute exclusive palliative care for the patient.

III. DISCUSSION AND REVIEW OF THE LITERATURE

The cancers most frequently responsible for gastric metastases are melanoma, breast, lung and oesophageal cancers.[4-7] In practice, ovarian metastases of gastric cancer are the best known (Krukenberg tumor). A Japanese autopsy study of 60 women with secondary ovarian lesions found gastric origin in 38% of cases, preceding the appearance of primary colonic, bronchial and biliary-pancreatic cancers.[8] Clinical symptoms are often aspecific, including abdominal pain, anorexia, vomiting, digestive haemorrhage and anaemia. In our case, pelvic pain, vomiting and altered general condition were the main clinical manifestations.

The most common endoscopic finding was a single, nodular, ulcerated volcano-like lesion of variable gastric location. More rarely, metastases may be single or multiple submucosal nodules or liniceal lesions.[7,9] Gastric metastases of malignant melanoma may be pigmented in 40% of cases.[4,7]

The diagnosis of gastric metastasis and its ovarian origin is debatable, as it is a rare entity and there are no paraclinical elements to provide diagnostic certainty. Classically, the CK7 positive - CK20 negative pairing points to an ovarian origin. In reality, cytokeratin 7 and 20 reactivity varies widely according to tumour location. Interpretation is generally straightforward to differentiate an ovarian adenocarcinoma from a colonic origin: CK7 positive - CK20 negative phenotype for the ovary and inverse for the colon in 80 to 90% of cases.[14,15] Lagendijk et al. included two markers in their study to arrive at the same conclusions: CK7+, CA 125+/CK20-, ACE- for the ovary, the reverse being observed for the colon.[16] The immunohistochemistry of gastric adenocarcinoma is much more complex, and the variable reactivity of gastric epithelium for CK7 is well known.[11-13] But positive reactivity for CK20 is also inconstant. In the study by Park et al. the CK7+/CK20- phenotype was found in 46% of 289 cases of gastric carcinoma metastasizing to the ovary.[17]

Tumors of the upper digestive tract, including the biliary tract and pancreas, are also immunohistochemically difficult to interpret. Duval et al[18] and Cathro et al[19] find in a large number of patients the same phenotype as that of CK7+/CK20- ovarian carcinomas. Conversely, Tot found a CK7+/CK20+ phenotype in 79% of patients with biliary or pancreatic adenocarcinoma.[20]

CA 125 is not specific to ovarian cancer. Its serum level is elevated in 80% of non-mucinous ovarian carcinomas (only 50% for stages 1 and 2). The marker has no value for initial diagnosis, but is of interest for assessing response to treatment and monitoring tumour recurrence.[10,21,22] Several studies have shown that high serum CA125 levels are possible in tumors of the upper digestive tract, particularly the stomach and pancreas. Serum measurement of tumour markers could provide diagnostic guidance in 66% of cases of adenocarcinoma metastases of undetermined origin: CA 125 positive/ACE and CA19-9 negative for the ovary, positivity of all 3 markers for the upper digestive tract.[23] Nakata et al. have shown that elevation of serum CA 125 in gastric adenocarcinoma is a good predictor of peritoneal invasiveness.[24] In our case, the serum marker CA 125 at metastatic recurrence was not elevated (CA 125 at 4 IU/L).

According to the FIGO 7th Edition classification of ovarian cancer, our patient was initially classified as Stage IIIC, and therapeutic recommendations suggest performing chemotherapy first before possible surgery for peritoneal metastases.

There is a lack of data in the literature to assess the resectability of metachronous ovarian cancer metastases. However, it seems that early detection of recurrence of neoplastic disease is correlated with a better therapeutic response and improved survival. Regular serum measurement of CA 125, supplemented by abdomino-pelvic CT if the marker level rises, is an essential part of follow-up.[21,22]

IV. CONCLUSION

The most frequent secondary tumours of the ovary are of digestive origin. Gastric metastases of a primary ovarian cancer are exceptional and pose diagnostic difficulties with a gastric primary, as the positive reactivity of certain immunohistochemical markers such as cytokeratins 7 and 20 in the gastric epithelium is not constant.

V. REFERENCES

1. Majerus B, Timmermans M. Gastric mestatasis of ovarian adenocarcinoma. A propos of a case. Acta chir Belg., 1990; 90: 166-71.
2. Spencer JA, Crosse BA, Mannion RA, Sen KK, Perren TJ, Chapman AH. Gatroduodenal obstruction from ovarian cancer : imaging features and clinical outcome. Clin Radiol, 2000; 55: 264-72.

3. Caramella E, Bruneton JN, Roux P, Aubanel D, Lecomte P. Metastases of the digestive tract. Report of 77 cases and review of the literature. Eur J Radiol, 1983; 3: 331-8.
4. Green LK. Hematogeneous metastases to the stomach. A review of 67 cases. Cancer, 1990; 65: 1596-300.
5. Bognel C, Lasser P, Zimmerman P. Les metastases gastriques. A propos de 17 observations. Ann Chir., 1992; 46: 436-41.
6. Menuck LS, Amberg JR. Metastatic disease involving the stomach. Am J Dig Dis., 1975; 20.
7. Niederau C, Sobin LH. Secondary tumours of the stomach. In :Hamilton SR, Aaltoven LA ? EDS. Pathology and genetics of tumours of the digestive system. Lyon : IARS Press, 2000; 66-7.
8. Fujiwara K, Ohishi Y, Koike H, Sawada S, Moriya T, Kohno I. Clinical implications of metastases to the ovary. Gynecol Oncol, 1995; 59: 124-8.
9. Sandler RS, Sartor RB, Bozymski EM. Endoscopic appearance of cancer metastatic to the stomach. J Clin Gastroenterol, 1981; 3(1): 35-7.
10. Rustin GJ. The clinical value of tumour markers in the management of ovarian cancer. Ann Clin Biochem, 1996; 33: 284-9.
11. Leroy X, Copin MC, Boman F, Gosselin B. Les cytokeratines 7 et 20 : aide au typage des tumeurs. Ann Pathol, 1998; 18: 103-9.
12. Schaafsma HE, Ramaekers FC. Cytokeratin subtyping in normal and neoplastic epithelium : basic principles and diagnostic applications. Pathol Annu, 1994; 29: 21-62.
13. Nagle RB. A review of intermediate filament biology and their use in pathologic diagnosis. Mol Biol Rep., 1994; 19: 3-21.
14. Moll R, Lowe A, Laufer J, Franke WW. Cytokeratin 20 in human carcinomas. A new histodiagnostic marker detected by monoclonal antibodies. Am J Pathol, 1992; 140: 427-47.
15. Wauters CC, Smedts F, Gerrits LG, Bosman FT, Ramaekers FC. Keratins 7 and 20 as diagnostic markers of carcinomas metastatic to the ovary. Hum Pathol, 1995; 26: 852-5.
16. Lagendijk JH, Mullink H, Van Diest PJ, Meijer GA, Meijer CJ. Tracing the origin of adenocarcinomas with unknown primary using immunohistochemistry : differential diagnosis between colonic and ovarian carcinomas as primary sites. Hum Pathol, 1998; 29: 491-7.
17. Park SY, Kim HS, Hong EK, Kim WH. Expression of cytokeratins 7 and 20 in primary carcinimas of the stomach and colorectum and their value in the differential diagnosis of metastatic carcinomas to the ovary. Hum Pathol, k 2002; 33: 1078-85.
18. Duval JV, Savas L, Banner BF. Expression of cytokeratins 7 and 20 in carcinomas of the extrahepatic biliary tract, pancreas, and gallbladder. Arch pathol Lab med., 2000; 124: 1196-200.
19. Cathro HP, Stoler MH. Expression of cytokeratins 7 and 20 in ovarian neoplasia. Am J Clin Pathol, 2002; 117: 944-51.
20. Tot T. Adenocarcinomas metastatic to the liver : The value of cytokeratins 20 and 7 in the search for unknown primary tumors. Cancer, 1999; 85: 171-7.
21. Mogensen O. Proognostic value of CA 125 in advanced ovarian cancer gynecol Oncol, 1992; 44: 207-12.
22. Rustin GJ, Nelstrop AE, Tuxen MK, Lambert HE. Defining progression of ovarian carcinoma during follow up according to CA 125 : a North Thames Ovary Group Study. Ann Oncol, 1996; 7: 361-4.
23. Brown RW, Campagna LB, Dunn JK, Cagle PT. Immunohistochemical identification of tumor markers in metastatic adenocarcinoma. A diagnostic adjunct in the determination primary site. Am J clin Pathol, 1997; 107: 12-9.
24. Nakata B, Hirakawa-YS CK, Kato Y, Yamashita Y, Maeda K, Onoda N, et al. Serum CA 125 level as a predictor of peritoneal dissemination in patients with gastric carcinoma. Cancer, 1998; 83: 2488-92.