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PERITONEAL CARCINOMATOSIS SECONDARY TO OVARIAN CANCER: IMAGING FINDINGS

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ABSTRACT **Summary:** Peritoneal lesions are a relatively common site of metastases, particularly from tumors of the abdomen and pelvis, which generally carry a poor prognosis, often with a significant impact on treatment. One of the tumors implicated in peritoneal metastasis is ovarian cancer.

Ovarian cancer is the fifth most commonly diagnosed cancer among women worldwide and the second most common gynecologic malignancy. Despite clinical screening, ovarian cancer in more than 60% of those affected is diagnosed at an advanced stage with a reported 5-year survival rate of 37% (stage III disease) or 25% (stage III disease). IV). Therefore, ovarian cancer is one of the deadliest cancers affecting women.

Ovarian tumors are classified according to the origin of the tumor into epithelial tumors (serous and mucinous tumors, endometrioid and clear cell carcinomas, Brenner's tumor), germ cell tumors (mature and immature teratomas, dysgerminoma, endodermal sinus tumor, carcinoma embryonic), sex cord - stromal tumors (fibrothecoma; granulosa cell, sclerosing stroma and Sertoli-Leydig cell tumors) and metastatic tumors.

Metastases to the ovary are relatively common with a documented incidence of 5% to 30% of all malignant ovarian masses. Ovarian cancer metastases differ from other tumors: they are primarily peritoneal rather than parenchymal in location.

These implants are usually isodense in tomography, in relation to the viscera, which makes their detection difficult. For this, a multidisciplinary approach is used, such as physical examination, tumor marker levels and diagnostic images. Such as CT, magnetic resonance imaging (MRI) and positron emission tomography (PET).

Objective: Describes ovarian metastasis in a patient with no significant history, emphasizing peritoneal lesions, through a clinical case.

Design: Prospective, observational in a single center.

Methodology: This is a systematic review of ovarian metastasis, detailing its clinical characteristics and short-term complications. The information and images obtained belong to the medical personnel in charge of the case, whose reinforcements are provided by the Excel, Word and JPG statistical package.

KEYWORDS : ovary, tumor, metastasis, peritoneal carcinomatosis

INTRODUCTION

Ovarian carcinoma often spreads by direct extension to other pelvic organs and surrounding soft tissues. The uterus, fallopian tubes, and contralateral adnexa are most commonly affected, but the rectum, sigmoid colon, bladder, and pelvic lateral wall can also be directly invaded. Metastases beyond the pelvis can occur by intraperitoneal seeding, lymphatic transmission, or hematogenous spread of cancer cells.

Peritoneal carcinomatosis includes ascites and enhancement, scalloped appearance of the liver, thickening and abnormal peritoneal nodularity. Intraperitoneal seeding is due to spread, being the most common method of extension of ovarian cancers, and approximately 70% of patients have peritoneal metastases at staging laparotomy.

There are four regions in which peritoneal implants are most commonly found due to gravity or stopped flow: the rectouterine bursa, the right lower quadrant, the sigmoid colon, and the right paracolic canal. Peritoneal seeding occurs in the right paracolic canal more frequently than in the left because the left paracolic canal is shallow and limited superiorly by the phreniccolic ligament. Over time, most of the peritoneal fluid is reabsorbed into the greater omentum and subdiaphragmatic space.

Ovarian cancer can also metastasize through the lymphatic system; by three drainage routes: the first is formed by the main lymphatic ducts, which follow the ovarian veins to the para-aortic nodes at the kidney level; this area is the most common site of metastatic adenopathy. The second consists of lymphatic vessels that traverse the broad ligament to the pelvic lymph nodes. The third is made up of lymphatic vessels that run through the round ligament to the inguinal nodes. Hematogenous spread is the least common mode of spread of ovarian cancer and is rarely evident at the time of diagnosis. The most common sites of hematogenous spread are the colon (50%), liver (48%), small intestine (44%), and lung (34%). Metastases of ovarian cancers to the brain, kidneys, and spleen have also been reported.

Due to the aforementioned, the most frequent metastasis of ovarian cancer is peritoneal involvement, which is why we present a clinical case referring to the peritoneal lesion.

Case Presentation

This is a 54-year-old patient, teaching occupation, with no personal pathological or surgical history.

She came to our health home with a 2-month clinical picture of abdominal pain and a sensation of a pelvic mass.

Upon physical examination, blood pressure: 140 / 70mmHg, Temperature of 36 °C, HR: 90 bpm, FR: 20 rpm.

Eutrophic, cardiopulmonary with no apparent pathology, at the abdominal level in the pelvic region a non-mobile, hard, painful mass is palpable.

With these signs, extension tests were requested where hematic biometry and blood chemistry were within the usual parameters, and a pelvic ultrasound was also requested. (Photo1, 2 and 3).
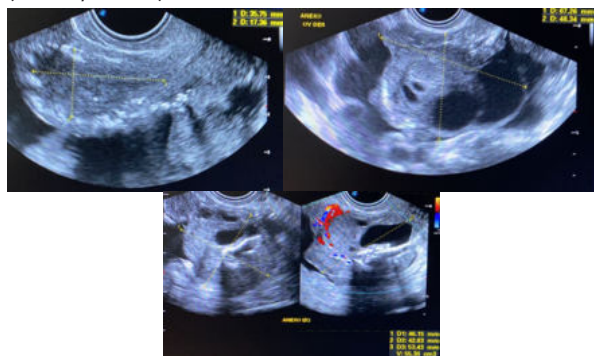

Figure 1-2-3: Transvaginal ultrasound showing the uterus with mural calcification; In addition, both adnexa shows uniloculated masses with mixed content (solid and cystic, predominantly solid, with intralesional vessels of anarchic distribution, suggesting as a diagnosis masses in adnexal dependent ovaries, highly suggestive of malignancy.

With these findings, tumor markers were requested where Ca 125 with a value of 1200 U /ml and Ca 19-9: 88 U /ml.

Upon finding elevated tumor markers, and endovaginal ultrasound masses in both adnexa, the presumptive diagnosis of ovarian cancer was reached, for which a biopsy was carried out.

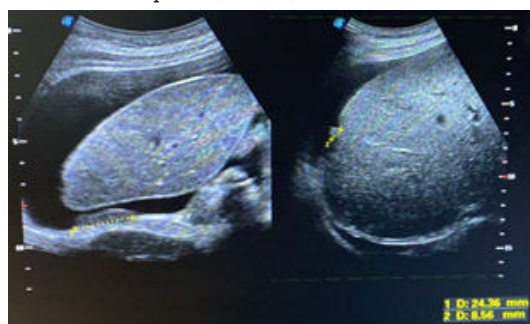Before performing the histopallogic, an abdominal ultrasound was required (Photo 4)

Foto 4: Ascitis en región perihepático, subfrénico derecho. Además, se evidencia imágenes sólidas ubicadas en región subhepático posterior y perihepatico, en relación a carcinomatosis peritoneal.

El resultado de histopatológico reveló (Foto 5)

D. CONCLUSIÓN DIAGNÓSTICA:

CÓDIGO	SITIO DE ORIGEN	DIAGNOSTICO
Q21-08923 - 24	PERITONEO PARIETAL	BIOPSIA DE PERITONEO PARIETAL POSITIVO PARA MALIGNIDAD CARCINOMA METASTASICO A FAVOR DE PRIMARIO DE OVARIO.

Photo 5: histopathological study of the parietal peritoneum.

With all these findings, the definitive diagnosis of ovarian cancer with metastases at the peritoneal level is reached, due to the existence of peritoneal carcinomatosis. (metastatic implants).

The patient is currently complying with her chemotherapy schedule and oncology controls.

DISCUSSION

Ovarian metastases occur by peritoneal, lymphatic, or hematogenous spread, but the peritoneal route is the most common.

Peritoneal fluid flows upward from the pelvis into the paracolic spaces and subphrenic regions.

Common implantation sites are the pelvis, right hemidiaphragm, liver, right paracolic canal, intestine, and omentum.

Peritoneal implants are seen as nodular masses of soft tissue that can coalesce to form plaques and coat the viscera, some enhance after contrast administration, others not.

We can find nodular thickening of the diaphragm, mesentery and omentum. The involvement of solid organs such as the liver and spleen gives them a scalloped appearance. In the pelvis, the implants are on the surface of the sigmoid colon and the rectum, the bladder.

Regarding the epidemiology of peritoneal carcinomatosis, it reflects that of patients affected by primary tumors such as: ovarian, gastric, esophagus, colon-rectal cancer, appendicular neoplasms, gallbladder carcinoma, pancreatic carcinoma, hepatocellular carcinoma, endometrial carcinoma ; hence the importance of a good clinical and imaging diagnosis.

Their clinical presentation is usually asymptomatic, but eventually, most patients begin to report symptoms that can range from uncomfortable to debilitating, including: abdominal distention due to malignant ascites, abnormal intestinal motility, resulting in nausea.

In order to recognize peritoneal carcinomatosis, the first examination is ultrasound, where we will be able to objectify: malignant ascites can be anechoic or have low-level echoes and hypoechoic nodules of intermediate echogenicity; as in our case, where we were able to verify that the patient was affected by ovarian cancer and peritoneal carcinomatosis reflected in the abdominal ultrasound as nodules in the subphrenic and perihepatic region. Although there are other imaging methods to diagnose this entity such as CT and MRI, in our case ultrasound was sufficient, concluding that it is a very helpful diagnostic imaging method.

Finally, the treatment and prognosis of peritoneal metastases per se are not treated locally, although systemic treatment may have some effect. However, complications often require palliative treatment (intestinal obstruction: diversion enterostomies. Malignant ascites: repeated ascitic drainage.

CONCLUSION

After completing first-line chemotherapy, 80% to 85% of patients with advanced ovarian cancer achieve remission. However, the median progression-free survival is only about 18 months. Early detection of localized recurrent disease may allow for optimal secondary debulking.

Images play a crucial role in mapping ovarian cancer recurrence. It can help clinicians determine the feasibility of secondary surgery and differentiate cases where a curative approach is possible from those where a palliative approach is more appropriate.

Conflict Of Interests
The authors declare that they have no conflict of interest.

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