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RESEARCH ARTICLE

BILATERAL OVARIAN TERATOMAS WITH LEFT RUPTURE AND CHEMICAL PERITONITIS

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Abstract

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Introduction:-

Chemical peritonitis follows the rupture or intraperitoneal cracking of a mature ovarian teratoma. The acute rupture can be spontaneous, frequently observed in pregnancy, or occur perioperatively. The slow onset rupture leads to the picture of dermoid cysts of the peritoneum whose preferential seats are the Douglas cul-de-sac and the perihepatic area. Establishing an early diagnosis is not easy, henceforth we must rule out an ovarian disease in case of abdominal pain or mass in women. Ultrasound and the tumor marker level take pride of place among the complimentary examinations. The anatomopathological aspects as well as their classification are difficult despite the technical progress. As a result, these tumors remain one of the most complex problems in surgery. The treatment is above all surgical; the modalities of this surgery and the combination of complementary therapies depend on the macroscopic aspect especially on the results of the histological examination. We will discuss a case observed in the department of obstetrics and gynecology at the university hospital Mohammed VI in Marrakech.

Case report:

The patient is a 24 years old woman with no known past medical or surgical history, which presented with abdominal pain for the past day associated with vomiting, altered bowel motion and fever without altered level of consciousness. The clinical examination showed generalized abdominal tenderness especially in the left iliac fossa. The laboratory tests showed leucocytosis with a white blood count of 16000, hemoglobin of 13.2 g/dL and a lipemia of 20. The abdominal ultrasound showed peritoneal effusion of medium abundance. The patient underwent laparotomy for suspicion of peritonitis which objectified a pelviperitonitis with torsion of a ruptured left ovarian teratoma and a right ovarian cyst measuring 6cmx7cm. The surgery consisted of a distortion of the left ovary with cystectomy and take off his content: hair, teeth and sebum, a right cystectomy without opening the cyst, then an abundant washing with normal saline and closure of the abdominal wall layer by layer (fig 1, 2, 3). The anatomopathological study of the specimen showed a mature pluritissular teratoma of the left ovary without signs of malignancy. The evolution was marked by a disappearance of the clinical signs and an improvement of the laboratory results.

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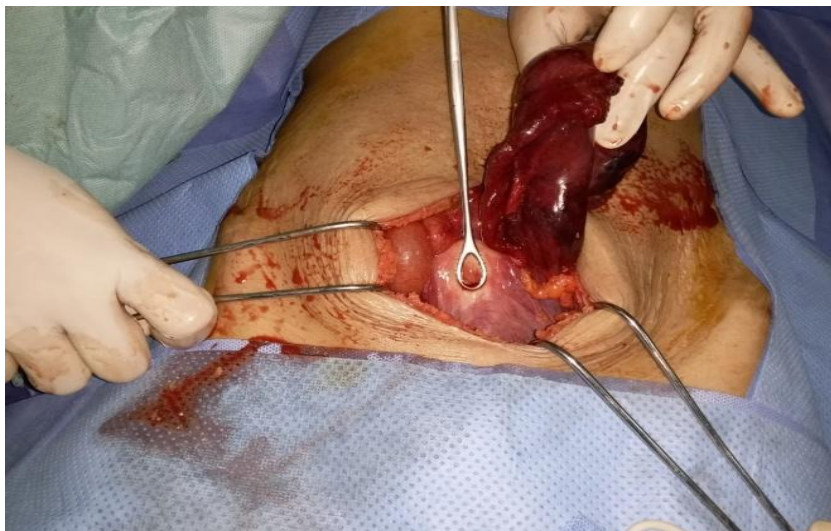


Figure 1:- Torsion and rupture of the left ovarian teratoma



Figure 2:- Right ovarian teratoma.

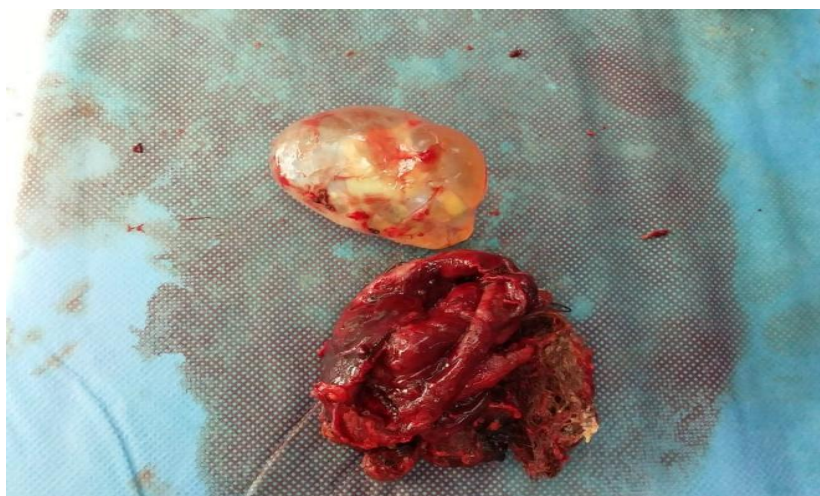


Figure 3:- The result of the cystectomys, up : right ovarian teratoma, down : twisted and ruptured left ovarian teratoma.

Discussion:-

Chemical peritonitis and dermoid cysts are the consequences of intraperitoneal rupture of a mature cystic teratoma (or dermoid cyst) of the ovary. Rupture is the most common complication after torsion but it concerns only a small percentage of mature cystic teratomas [1]. These are the most common tumors of the ovary before the age of 45. The incidence is 8.9 cases/100000 women. They represent 20% of all ovarian tumors in adults and 50% of ovarian tumors in children. The involvement is bilateral in 8 to 15% of cases and they are predominantly right in unilateral cases with represents 72.2% of cases [2]. The dermoid cysts of the ovary generally comprise the mature derivatives of the 3 embryonic layers. The cutaneous tissue and its appendages are almost always present in teratomas, the only constituent (30% of case) or in variable quantity compared to the other tissues. The squamous layer is generally non-keratinizing and non-parakeratotic, and its stroma contains a variable number of hair follicles, sebaceous glands and sweat glands. Sometimes, the squamous layer can be hyperplastic [3]. In most cases, abdominal pain is the most frequent inaugural sign. It sometimes can be associated with non-specific signs such as constipation, nausea, loss of appetite, fever or dysuria. In less than 5% of cases, endocrine signs are indicative of an ovarian mass. It can either be of hyperestrogenism which are the most frequent or signs of hyperandrogenism revealing of a cyst or a heterogenous ovarian mass. Dermoid cysts are sometimes very large and can cause gynecological or digestive system symptoms due to the compression of the rectum. Nausea and vomiting should cause fear of torion or hemorrhage due to rupture of the mass, these signs may point to acute appendicitis [3,4]. Abdominal examination may reveal a sensitive abdominal mass, medial due to the abdominal position of the ovary.

Dermoid cysts can present themselves as surgical emergency due to acute abdominal pain [4]. In our case, the patient was admitted for acute appendicitis. Dermoid cysts can be revealed by their complicated forms:

Torsion:

The ovary or appendix turn on themselves and become twisted. The torsion manifests as severe, intense pelvic pain, sometimes associated with nausea and vomiting. The diagnosis is based on clinical examination and by Doppler ultrasound.

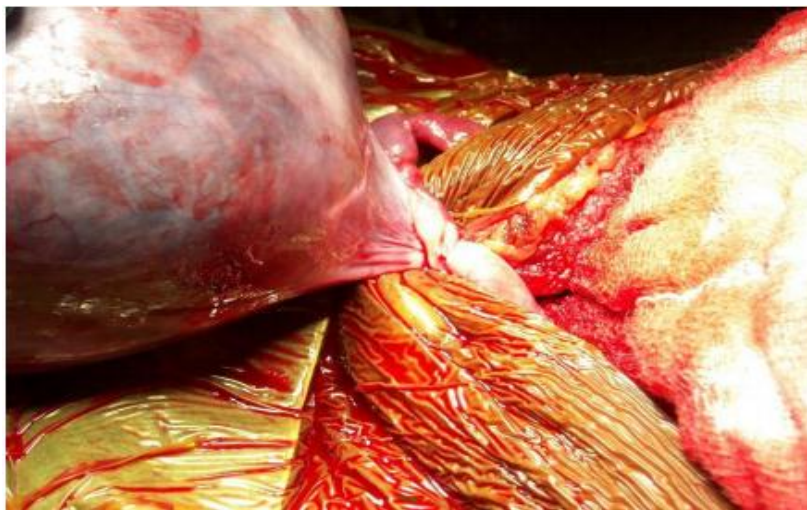


Figure 4:- Intraoperative view showing torsion of the appendix complicated by a left dermoid cyst.

Rupture:

The rupture manifests itself by a brutal pelvic pain, of moderate intensity, sometimes associated with nausea or vomiting. The diagnosis is made by clinical examination and by ultrasound, showing a collapsed ovarian cyst associated with abundant peritoneal effusion. Acute chemical peritonitis: In the event of massive leakage of the cystic contents after spontaneous rupture, the clinical picture observed is acute. Spontaneous rupture can be favored by pregnancy or childbirth; the acute revealing picture may be preceded by a phase of intermittent pain. The CT scan images are those of a pelviperitonitis with edema of the great omentum, thickening of the parietal and especially visceral peritoneum, and presence of inter-loop collections. It is the coexistence of the signs of pelviperitonitis with a mature uni or bilateral cystic ovarian teratoma which makes it possible to evoke the diagnosis and differentiate this

clinical picture from that observed in other etiological circumstances of acute pelvic inflammatory disease (acute appendicitis, sigmoiditis, adnexal infection).



Figure 5:- Ruptured dermoid cyst of the ovary.

Infection:

Coliform bacteria are the most frequent involved organisms. A recent study carried out in the United States by Ryan is the first of its kind concerning the infection of a dermoid cyst by staphylococcus aureus sensitive to methicillin leading to a differential diagnosis of appendicitis [6]. Obstructive complications: a large tumor of the ovary can cause compression on neighboring organs (bladder, rectum, colon, iliac vessels) and can therefore be associated with compressive complications (overactive bladder, dysuria, constipation, venous thrombosis [7,8,9]). Beyond the clinical examination, it is important even in a surgical emergency, to perform imaging: ultrasound is the examination of choice in the initial assessment. Magnetic resonance imaging (MRI) and computed tomography (CT) are performed as a second intention.

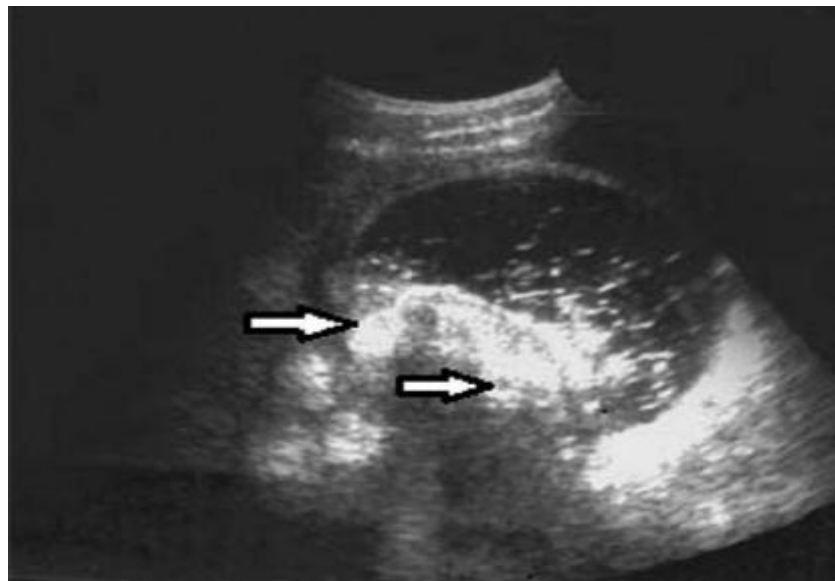


Figure 6:- Typical mature cystic teratoma: heterogeneous mass with strongly echogenic images associated with hypoechoic fluid areas.

In front of any ovarian mass, the dosage of tumor markers preoperatively (α FP and β HCG) is essential, to guide the etiological diagnosis and eliminate a possible malignant component. These markers do not have organ specificity. An increase in α FP within the framework of an ovarian mass confirms the highly malignant yolk contingent of the tumor whereas that of β HCG, may correspond to a choriocarcinomatous secretory component. Furthermore, the absence does not exclude malignancy (non-secreting malignant germ tumors) [10]. In case of abdominal mass the differential diagnosis is ectopic pregnancy and infectious diseases [11]: pyosalpinx, tubo-ovarian abscess, pelvic abscess (appendicular or Crohn's disease), peritoneal including cyst (after peritoneal surgery or gynecological infection) and extra gonadal pelvic tumors. In case of acute abdominal pain, the differential diagnosis of ovarian torsion is acute appendicitis, especially in case the pain is localized in the right iliac fossa with tenderness on palpation, fever and leucocytosis. The treatment of benign ovarian tumors remains exclusively surgical since no medical treatment has proven its effectiveness. Taking into account the benign nature of ovarian cysts the surgical procedure must be as conservative as possible because we are treating young fertile women. [12]. Postoperative surveillance of tumors is justified as part of organic tumor with a risk of recurrence. In the context of organic tumors, surveillance is based on the recurrence of clinical signs, the elevation of specific tumor markers and ultrasound imaging.

Conclusion:-

Thanks to an early diagnosis and an adequate treatment mainly surgical, the prognosis of ovarian teratomas is excellent but requires prolonged surveillance.

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