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RESEARCH ARTICLE

ECTOPIC ABDOMINAL PREGNANCIES: ABOUT 2 CASES

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Abstract

The abdominal location is even more exceptional and presents less than 1% ofectopic pregnancies. We report and descript of the emergency approach that we used for management of an abdominal pregnancy for two patients who they are presented to our unit. For the two case the main symptom was the acute pelvic pain on the notion of amenorrhea, after complementary examen and given the urgency we proceeded, to an exploratory laparotomy that found an abdominal ectopic pregnancy. The issue for the two patients had an uneventful recovery and they were discharged the next few days. These cases are presented to highlight the dilemma associated with diagnosis and management of abdominal pregnancy with a review of literature.

Introduction:-

Ectopic pregnancy occurs when an embryo implants outside of the uterine cavity. It is a rare localization of pregnancy (1.3 to 2.5% of pregnancies). Most often, it is ampullary (75%), isthmic (20%), at the pavilion (3%), interstitial or ovarian.

The abdominal location is even more exceptional and presents less than 1% of ectopic pregnancies.

It is a serious pathology and can be life-threatening, hence the need for an early diagnosis.

Surgery is the gold standard in the management of abdominal pregnancy.

In this report, we describe two cases of abdominal ectopic pregnancies discovered at 11 weeks and 14weeks, at the maternity of Al Farabi hospital in Oujda, Morocco.

Case 1

A 38-year-old woman is a gravida 5, para 4, all delivered naturally, with a history of laparoscopic cholecystectomy in 2015. She had no risk factors for ectopic pregnancy (no repeated urogenital infections, no notion of curettage, no smoking, no history of EP or tubal surgery). She consulted for acute pelvic pain on the notion of amenorrhea of 11 weeks. On the day of admission, the general physical examination found a conscious patient, shocked (hypotention, tachycardia and a polypnea), with discolored conjunctivae and a mucocutaneous pallor. The gynecological examination revealed a diffuse abdomino-pelvic defense with dullness of the flanks. Vaginal examination revealed a long-closed posterior cervix with an intense Douglas' cry and no metrorrhagia. The size of the uterus was difficult to assess given the abdominal and pelvic defense.

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The pelvic ultrasound objectified an empty uterus, slightly increased in size at 98/50mm with a decidualized endometrium associated with the presence of a left latero-uterine gestational sac containing a 49mm embryo which corresponds to 11 weeks+ 5 days with positive cardiac activity (Figure 1) and an abundant abdomino-pelvic fluid effusion reaching the Morison's space.

Biology showed an anemia at 8.6 g/dL and a hematocrit at 25%. The rest of the assessment was normal. The serum ß-hCG level was not essential given the presence of cardiac activity. An ABO/Rh grouping and a blood request were sent to the laboratory urgently.

In view of this picture, the diagnosis of an ectopic pregnancy was retained, and the patient was sent to the operating room in emergency.

Considering the great abundance of hemoperitoneum and the hemodynamic instability of the patient, we proceeded, under general anaesthesia, to an exploratory laparotomy through a Pfannenstiel incision. On exploration, and after aspiration of 2 liters of hemoperitoneum, we found an intact gestational sac with a living embryo, hanging from the uterine fundus (Figure 2 and 3). Extraction of the gestational sac was easy (Figure 4), leaving a 2cm breach in the perimetrium but with an intact and healthy myometrium (Figure 5). The two ovaries and the two fallopian tubes looked perfectly normal. The breach was repaired using simple interrupted sutures of Vicryl n°0 ensuring haemostasis. In this case, the patient was transfused with 3 red blood cells dur the intervention.

The postoperative was simple. Biologically, a complete blood count was performed after transfusion revealing haemoglobin at 10 g/dL.

The patient was discharged from the hospital on D5 in very good condition.

Case 2

It’s a 29-year-old woman, gravida 3, para 2 (all delivered naturally) with no particular pathological history, who consulted for abdomino-pelvic pain lasting for 3 weeks, exacerbated 3 days ago, associated with constipation and vomiting with deterioration of general condition.

The general clinical examination found a conscious patient, pale, asthenic, with discolored conjunctivae, in a state of shock (hypotensive, tachycardia and polypnea).

The gynecological examination found diffuse abdomino-pelvic defense and vaginal examination revealed a multiparous cervix, without metrorrhagia.

Urgent pelvic ultrasound showed an ectopic non-evolving pregnancy of 14 weeks + 1 day with abundant abdomino-pelvic fluid effusion reaching the right interhepatorenal space.

The biology showed a deep anemia at 5 g/dL. The serum ß-hCG level was not expected given the patient's instability. An ABO/Rh grouping and a blood request were sent to the laboratory urgently.

Faced with this clinical picture, the patient was sent to the operating room in emergency.

Considering the great abundance of hemoperitoneum and the hemodynamic instability of the patient, we opted for an exploratory laparotomy through a midline type incision under general anaesthesia. On exploration and after aspiration of 1.5 liter of hemoperitoneum and several large blood clots, we found an intact gestational sac, hanging from the uterine fundus (Figure 6). The extraction of the gestational sac led to its rupture (Figure 7), leaving room for a 4cm breach in the perimetrium with an intact and healthy myometrium (Figure 8). The two ovaries and the two fallopian tubes looked perfectly normal with no old or recent lesions. The breach was repaired using simple interrupted sutures of Vicryl n°0 ensuring a perfect haemostasis (Figure 9). In this case, the patient is transfused with 3 red blood cells intraoperatively.

The postoperative course was simple, with improvement in the clinical condition of the patient. Biologically, a complete blood count was performed post-transfusion revealing a haemoglobin of 7.7 g/dL.

The patient was discharged from the hospital on D5 in very good general condition.

Discussion:-

Ectopic pregnancy (EP) is the first cause of maternal morbidity and mortality in the 1st trimester. Abdominal pregnancy (AG) remains an extremely rare case of ectopic pregnancies, notably less than 1% [1]. It is estimated at 1 abdominal pregnancy for 10,708 deliveries in Rabat, and 1 for 11,250 deliveries in Casablanca. In the United States, as in Europe, the frequency of abdominal pregnancy is estimated at 1 per 10,000 deliveries [2].

The risk of maternal mortality is 7 to 8 times greater than that of a tubal pregnancy [3]. However, some cases of advanced abdominal pregnancies have been reported in the literature [4].

There are two pathophysiological mechanisms that can explain this pathology:

1. Secondary abdominal pregnancy, the most common, is secondary to a tubo-abdominal abortion or migration through a uterine scar of a primary intrauterine pregnancy.
2. Primary abdominal pregnancy due to immediate implantation of the egg on the peritoneum by delayed egg capture. This form, which is still disputed today, is characterized by three criteria established by Studdiford in 1942 cited by Loffredo [5]:
3. Normal tubes and ovaries with no evidence of recent or remote injury.
4. An absence of any evidence of an utero-peritoneal fistula.
5. The presence of a pregnancy related exclusively to the peritoneal surface and early enough to eliminate the possibility of secondary implantation following a primary nidation in the tube.

The risk factors favoring abdominal pregnancies are similar to those of other types of ectopic pregnancies. We find, for example, upper genital infections, tubal infertility, history of tubal surgery, history of EP, IVF, high number of embryos transferred and fresh embryo transfers [6].

The clinical diagnosis of abdominal pregnancy is often difficult and it is made of the classic clinical, biological and ultrasound signs of an ectopic pregnancy.

Indeed, the clinical presentation of abdominal pregnancy is not very telling apart from the paroxysmal abdomino-pelvic pain which can be exacerbated in the event of a cataclysmic hemoperitoneum associated with shoulder pain.

Moreover, metrorrhagia is not always observed in the case of AP since the bleeding is often intra-abdominal. However, other extra-gynaecological signs are more revealing like digestive disorders (nausea, vomiting, diarrhea).

Other symptoms may be observed depending on the location of implantation as described in previous cases, omentum [7], spleen [8], and liver [9].

Other cases reported in the literature describe rectal pain associated with rectal bleeding in relation to rectal implantation during pregnancy [10].

The clinical examination is initially intended to assess the general clinical state of the patient (consciousness, blood pressure, heart rate, respiratory rate, color of the conjunctivae).

Indeed, the emergency in abdominal pregnancy is the hemodynamic instability which can be life-threatening the maternal vital prognosis.

Vaginal examination reports few elements apart from the presence or absence of a Douglas' cry indicating peritoneal irritation, and the state of the cervix. Indeed, an open cervix may rather evoke a spontaneous miscarriage, which is a differential diagnosis of first-trimester metrorrhagia.

Biologically, the serum βHCG level is necessary to diagnose pregnancy if the location is unidentifiable. However, the dosage of βHCG becomes derisory in the event of an empty uterus and the presence of a laterouterine mass with positive cardiac activity on ultrasound.

Radiologically, ultrasound is the cornerstone of the diagnosis of ectopic pregnancy. It shows an empty, gravid uterus, associated with a latero-uterine mass with or without hemoperitoneum. The concomitant presence of a high βHCG level most often confirms the diagnosis, hence the interest of the "βHCG - ultrasound" pair.

Furthermore, to diagnose an abdominal ectopic pregnancy, the Royal College of Obstetricians and Gynaecologists [11] recommends the use of ultrasound criteria proposed by Gerli et al [12]:

1. Absence of an intrauterine gestational sac.
2. Absence of both a clearly dilated tube and a complex adnexal mass.
3. A gestational cavity surrounded by loops of bowel and separated by peritoneum.
4. A wide mobility similar to fluctuation of the sac, particularly evident with a gentle pressure of the transvaginal probe toward the posterior cul-de-sac.

The Magnetic resonance imaging is appropriate in case of a strongly suspected abdominal pregnancy in a hemodynamically stable patient. This could confirm the diagnosis and identify placental implantation on vital structures such as the large vessels or the intestines. This provides major support for the preoperative preparation of the surgical team, the ordering of labile blood products, the preparation of arterial embolization, bowel preparation and the placement of ureteral catheters.

The therapeutic attitude is undertaken quickly given the seriousness of abdominal pregnancies. Indeed, surgery is the mainstay of the therapeutic approach of GA as suggested by the Royal College of Obstetricians and Gynaecologists [11].

Laparoscopic surgery is indicated first if the pregnancy is young. However, laparotomy will be preferred in cases of advanced pregnancy, giving easier access and allowing better management of adhesions and the risk of bleeding.

Laparoscopy is an effective and easy option to undertake if the implantation is far from the large vessels. It reduces operating time, blood loss and thus contributes to a short hospital stay compared to laparotomy.

In our two patients, we opted for an exploratory laparotomy given the presence of a huge hemoperitoneum arriving at Morrison's space.

When removing the gestational sac, resection of the trophoblast must be complete. However, an insertion at a location with a high risk of bleeding could lead to leaving part of the trophoblast product in place. This product most often regresses over time. Nevertheless, clinicians suggest the use of in-situ methotrexate given the risk of secondary hemorrhage, peritonitis, fistulas, intestinal obstruction and choriocarcinoma [13-15].

A few rare cases have been reported in the literature advocating the success of medical treatment with intramuscular or intra-saccular methotrexate for young pregnancies. The success criteria would be identical to those of tubal pregnancies [13-14].

Conclusion:-

Abdominal pregnancy is a rare pathology and presents a significant risk of maternal morbidity and mortality, given the haemorrhagic risk. The main problem raised by abdominal pregnancy is the difficulty of diagnosis. Indeed, its clinical signs are often not very telling and join those of tubal ectopic pregnancy. It will be suspected in the face of suggestive ultrasound signs. A biological assessment looking for a hemoglobin level and a grouping ABO/Rh with blood request must be undertaken urgently. Surgery will confirm the diagnosis and allow adequate treatment.

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Conflicts of interest

The authors declare no conflicts of interest.

Figure's legends:

Figure 1:- Pelvic ultrasound showing the ectopic sac with and positive cardiac activity.

Figure 2:- Discovery of the gestational sac hanging from the uterine fundus,floating in the hemoperitoneum.

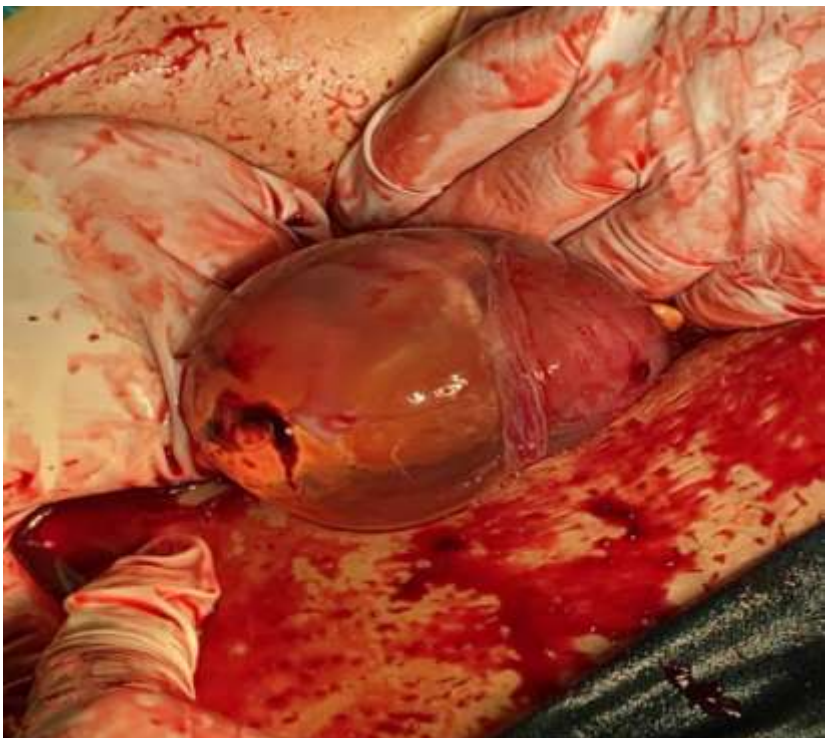

Figure 3:- Individualization of the insertion of the gestational sac at the level of the uterine fundus.

Figure 4:- Extraction of the intact gestational sac.

Figure 5:- Breach of the serosa and subserosa of the uterus, without breaking the myometrium.

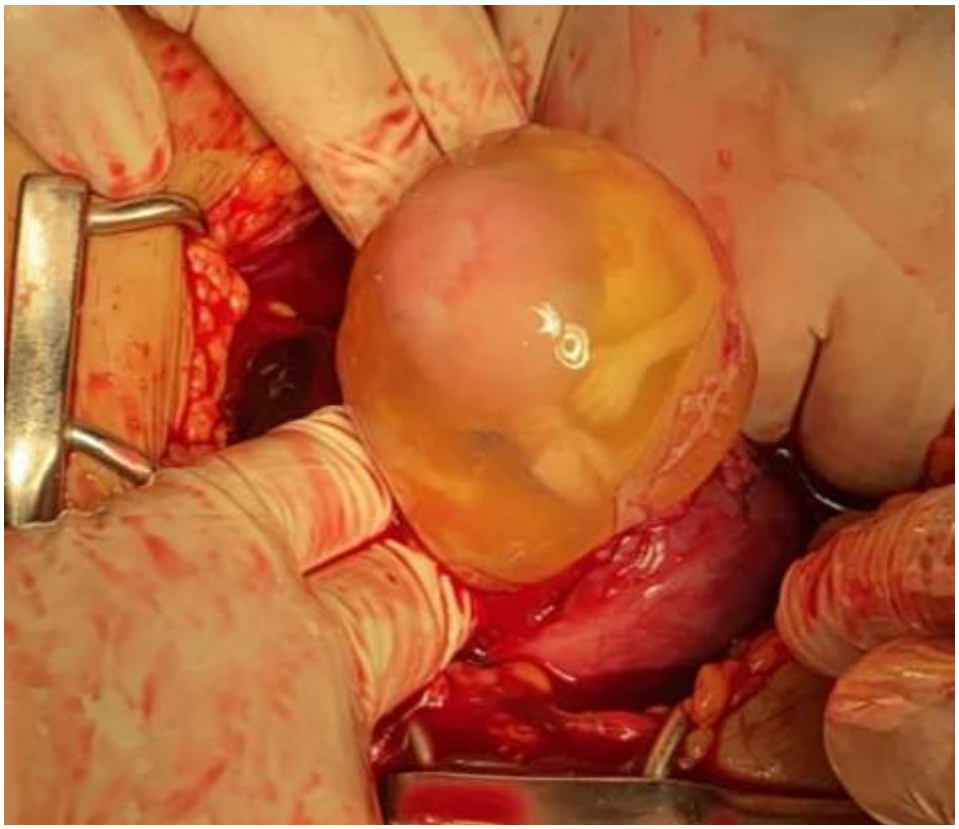

Figure 6:- Discovery of the gestational sac seeming to come out of the uterine fundus.

Figure 7:- Foetus and its appendages.

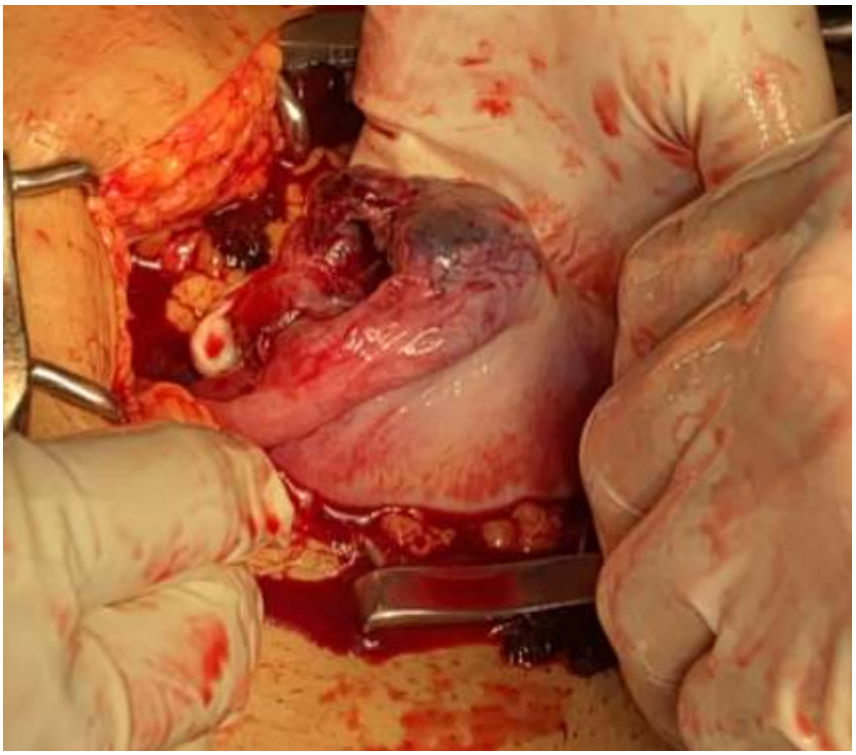

Figure 8:- breach of the serosa and subserosa of the uterus, without breaking the myometrium.

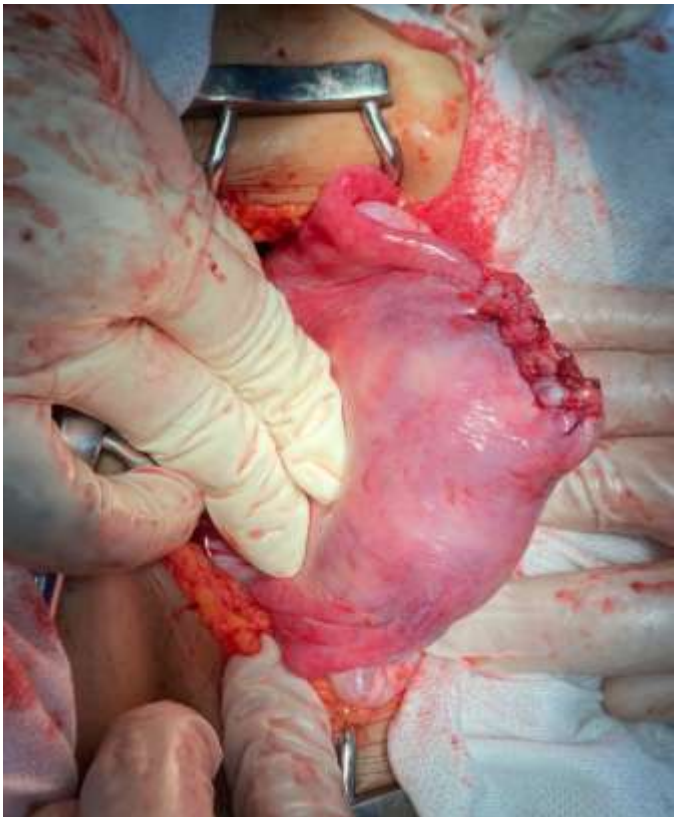

Figure 9:- Ensured hemostasis with simple interrupted sutures of Vicryl n°0.

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