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Appendicular Peritonitis and Active Pregnancy in the Last Trimester: About 02 Cases

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Abstract **Case Report**

Appendicular peritonitis and pregnancy is a rare and serious association. The clinical presentation is sometimes misleading because of the anatomical and physiological changes associated with pregnancy, often responsible for diagnostic hesitation and therapeutic delay that are detrimental to the mother and the unborn child. The maternal-fetal prognosis depends on the severity of the abdominal pathology. We report the case of two patients aged 25 and 34, all multiparous. Admitted to gyneco-obstetrical emergencies for abdominal pain, postprandial vomiting and occlusive syndrome all on an evolving pregnancy of 32 and 34 SA. Clinical examination found on palpation a generalized contracture in one case, defense of the right hypochondrium. Fetal heart sounds were positive. Abdominopelvic ultrasound revealed intraperitoneal effusion in both cases without associated obstetric lesion. The abdomino-pelvic scan done in emergency allowed an individualization of a stercorite at the level of the FID, without clear visualization of the appendix, an occlusion of the organic small intestine on double band associated with a colonic occlusion by external compression of the sigmoid and with note a gestational sac of 34 SA. All patients were operated on within 24 hours of admission. Laparotomy found in both cases a gangrenous and perforated appendix associated with an intraperitoneal effusion which was removed and then aspirated. Retrograde appendectomy, peritoneal cleansing plus drainage was performed in all cases. Tocolysis and antibiotic therapy were instituted. The postoperative follow-up was simple, one week after the intervention one to give birth and the other three weeks later all vaginally.

Keywords: Appendicular peritonitis, pregnancy, gyneco-obstetrical emergencies, Tocolysis.

INTRODUCTION

Appendicular peritonitis and pregnancy is a rare and serious association [1]. The severity is due to the delay in diagnosis in the face of often polymorphic and misleading symptomatology. The maternal-fetal prognosis depends on the severity of the abdominal pathology. However, fetal mortality remains high. The clinical symptomatology is crude and often misleading, especially at the end of pregnancy due to anatomical and physiological changes. The diagnostic difficulties and the therapeutic delay motivated the choice of this theme, the aim of this work of which is to describe the clinical, radiological, therapeutic and evolutionary particularity of appendicular peritonitis in pregnancy.

OBSERVATION

Patient 1: 25 years old, with a history of caesarean section, double scarred uterus, multiparous. Admitted for management of abdominal pain with vomiting in a 32-week pregnancy that has been evolving for a week. Clinical examination on admission found the patient conscious, hemodynamically and respiratory stable. The abdomen is voluminous on its long longitudinal axis and ovoid, diffuse tenderness on palpation. Uterine contracture was found, fetal heart sound positive. The biological assessment finds a hemoglobin at 12g/dl, a hyperleukocytosis at 21000/mm³ with a predominance of polynuclear Neutrophils, a C Reactive Protein at 210mg/L Urea is at

0.30 and the Creatinine at 8. The blood ionogram was normal. An abdominal ultrasound objectified an evolving monofetal pregnancy with the presence of an effusion at the level of the right iliac fossa and fixed small loops without being able to individualize the appendix evoking in the first place appendicular peritonitis.

The patient was operated on within 24 hours of admission. The midline laparotomy straddling the umbilical enlarged in the subumbilical found a digested sphacelus retro-caecal appendix with a healthy base associated with a purulent intraperitoneal effusion, which was removed for bacteriological examination and then aspirated. The procedure consisted of performing an appendectomy after ligation and section of the appendicular stump, closing the appendicular stump with a 3/0 vicryl stitch. Peritoneal cleansing with 0.9% isotonic saline and drainage was performed. Tocolysis and antibiotic therapy were initiated. The postoperative follow-up was simple, one month after the operation she gave birth vaginally.

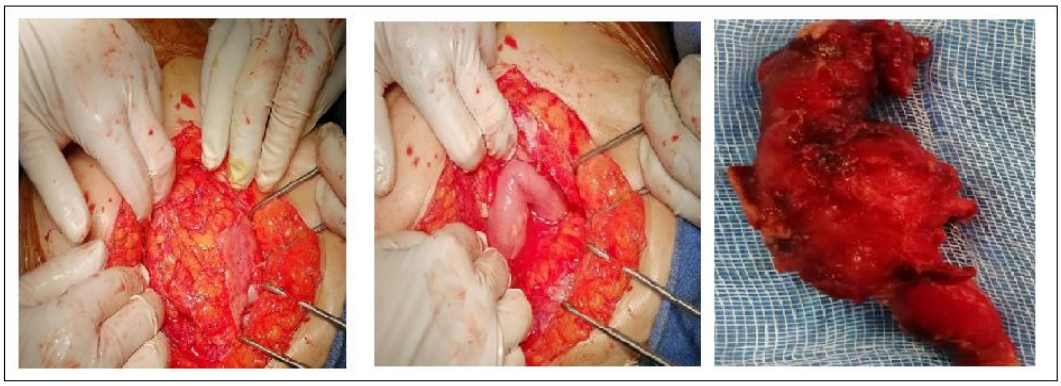

Figure 1: Intraoperative image showing purulent intraperitoneal effusion and perforated appendix. Grelic distension due to compression of pregnancy

Patient 2: 34 years old, G3P2. Admitted for management of an occlusive syndrome made of cessation of matter and gas, early postprandial vomiting evolving for four days in a context of evolving pregnancy of 34 WA. She consulted in the Gynecology and Obstetrics emergency room for which an opinion from visceral surgeons was requested. The clinical examination found a conscious patient who was hemodynamically and respiratory stable with BP: 12/8 Cm/mm hg, Respiratory rate: 18 cycles/min Heart rate: 100 btts/min. Abdomen voluminous on its long longitudinal axis and ovoid. Palpation reveals sensitivity of the right iliac fossa. Uterine contracture was found and fetal heart sounds positive with Binard's stethoscope. The complete blood count showed hyperleucocytosis at 23,000/mm³ with a predominance of polymorphonuclear Neutrophils, Hg: 11g/dl, C-Reactive Protein at 171. Ionogram and correct renal function. Abdomino-pelvic CT with objectification: Individualization of a stercolitis at the level of the right iliac fossa, without clear visualization of the appendix. Organic grelic occlusion on double flange associated with colonic occlusion by external compression of the sigmoid d one side and the image of a bridle on the other side, with no sign of digestive pain and a gestational sac of 34 SA.

The patient was operated on within 24 hours of admission. The median laparotomy straddling the umbilicus found an appendix in the internal latero-caecal position, gangrenous and perforated at its tip with a healthy base **(Figure 3)** associated with an intra-peritoneal effusion which was removed for bacteriological examination then aspirated. . Realization of a retrograde appendectomy after ligation and section of the meso appendicular, closure of the appendicular stump with a 3/0 vicryl stitch. A 0.9% SSI peritoneal toilet plus drainage were performed. Tocolysis and antibiotic therapy were instituted. Simple postoperative follow-up, one week after the intervention, she gave birth vaginally.

Figure 2: CT scan of the abdomen in injected axial sections showing the presence of an stercolith at the level of the FID (arrow), with appendage not visible, note a gestational sac containing the fetus (34 WA)

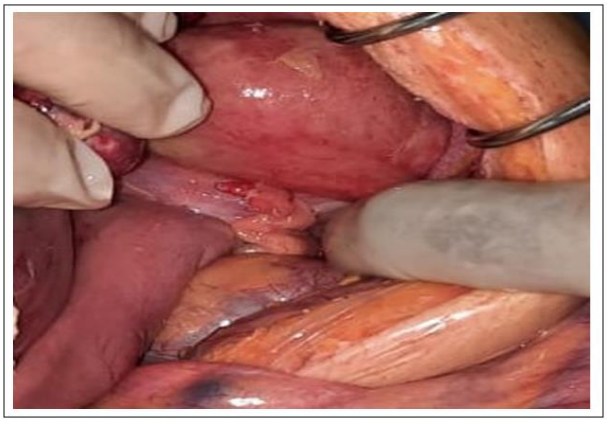

Figure 3: Image peropératoire montrant l'appendice perforé

DISCUSSION

The indications for abdominal surgery in pregnant women are in the vast majority of emergencies. Apart from obstetrical causes (Retroplacental hematoma, subscapular hematoma of the liver, uterine rupture, etc.), these are mainly simple and or complicated acute appendicitis, vesicular pathologies. Thus, an acute abdominal pathology from a non-obstetric cause complicates around 1 in 500 pregnancies, with a surgical indication in 0.2 to 2% of cases [2].

Appendicular peritonitis is a serious condition in pregnant women, due to the rarity of complicated forms of acute appendicitis, most often due to a diagnostic delay. Diagnostic difficulties, especially in the second and third trimesters, are due to misleading and crude symptomatology associated with changes in the anatomical situation of the appendix, which rises as the pregnancy progresses. Uterine contractions are very frequently associated (80% premature contractions in the case of localized peritonitis), and the rate of premature delivery during the third trimester can exceed 50% [3].

The association of peritonitis and pregnancy is rare. Its frequency is variously assessed according to the authors. The frequency of non-gynecological abdominal emergencies is generally estimated at 2 per thousand pregnancies [4, 5, and 6].

Abdominal pain during pregnancy is a frequent reason for consultation with a variable degree of urgency. The diagnostic hypotheses must be prioritized taking into account the patient's history and the term of the pregnancy. There are gyneco-obstetrical causes responsible for abdominal pain that must be considered and diagnosed quickly to allow appropriate care, especially when the maternal and fetal vital prognosis is engaged. Whatever the stage of pregnancy, for many authors, the clinical signs most encountered in order of frequency is: Spontaneous, constant abdominal pain migrating to the level of the right iliac fossa associated with nausea and vomiting, defense on abdominal palpation [7, 8].

All the patients benefited from an NFS including a hyperleukocytosis greater than 16,000/mm3, the CRP was positive in all the patients. These biological assessments are difficult to interpret during pregnancy due to physiological hyperleukocytosis, especially in the last trimester, however CRP remains a positive indicator for appendicular peritonitis [9]. ECBU came back sterile.

Abdominal ultrasound is the determining element of the diagnosis and must be proposed as first intention. It makes it possible to rule out the possibility of an associated adnexal or obstetrical pathology, and to document the pregnancy by specifying the gestational age and the fetal vitality. Objective the presence of an effusion of the right iliac fossa and fixed loops without being able to individualize the appendix, evoking in the first place appendicular peritonitis [10]. Abdomino-pelvic CT scan showed Individualization of a stercolith at the level of the FID, without clear visualization of the appendix. Organic grelic occlusion on double band associated with colonic occlusion by external compression of the sigmoid on one side and bridle image on the other side, with no signs of digestive pain and a gestational sac. In the literature, the injection of iodinated contrast product has not shown any teratogenic effects either in animals or in humans. However, potential neonatal hypothyroidism should be screened for due to the risks observed in animal studies [11]. Do not delay treatment in the event of an abdominal emergency in pregnant women, and given the low fetal risk, particularly during the 2nd and 3rd trimester, CT scan with injection of contrast product must be performed in pregnant women if it is necessary for the etiological assessment.

The management of appendicular peritonitis in pregnant women is surgical, and the strategy must take into account several factors such as gestational age, severity of appendicular peritonitis, body mass index, history of surgery abdominal pain and the habits and preferences of the surgeon. It consists of a usual treatment of peritonitis with cure of the causal pathology. The peritoneal toilet must be particularly careful. Abdominal drainage is systematic, except for some authors who consider it to be responsible for permanent uterine irritation with exaggerated uterine contractions [12]. Finally, tocolysis is necessary to prevent the onset of uterine contractions. The indication of this tocolysis is not discussed in the period which goes from the end of the first trimester to the 34th week of amenorrhea. Beyond and at fetal maturity, an extraction can be discussed to prevent the risk of perinatal infection [13].

Evolution: maternal prognosis has improved, maternal mortality has fallen to 0.01% since 1976,

whereas it was close to 5% in 1960. This is linked to better multidisciplinary care thanks to more early, better anesthesia-resuscitation and advances in antibiotic therapy. It is mainly related to perinatal infection of hematogenous origin and to prematurity.

CONCLUSION

Peritonitis and pregnancy is a rare but serious pathology, due to anatomical and physiological changes during pregnancy, which makes diagnosis more difficult and delays surgical treatment. The fetal prognosis remains poor, and close collaboration between obstetricians and surgeons is necessary, thus allowing rapid decision-making and an improvement in the maternal-fetal prognosis.

REFERENCES

1. R. MOHSINE., F. ISMAEL., B. LEKHAL., EH. EL. FARICHA., A. ERROUGANI., & M.R. CHKOFF et al. Appendicular peritonitis and pregnancy Médecine du Maghreb 1996 n°55
2. J. Bouyoua., S. Gaujoux., L. Marcellin., M. Leconte., F. Goffinet., C. Chapron., & B. Dousset. Abdominal emergencies during pregnancy journal of visceral syrgery 10.1016/j.jviscsurg.2015.09.017
3. J. Bouyou., S. Gaujoux., L. Marcellin., M. Leconte., F. Goffinet., C. Chapron., & B. Dousset. Abdominal emergencies during pregnancy; Elsevier Masson SAS 10.1016/j.jchirv.2015.09.009 1878-786X
4. CHAMBON J.P., QUANDALL E.P., REGNIER C., DELECOUR M., & RIBET M. Non-gynecological abdominal emergencies during pregnancy. Ann. Surgery (1986), 40(7), 455-461.
5. Chambon, J. P. (1987). Non-gynecological abdominal emergencies during pregnancy. *Journal de Chirurgie*, *124*(10), 551-555.
6. PANIEL B.J., ASCHER E., BEUZT J.M., CHANTRAINE J., TRUE J.B., & POITOUT Ph. Surgical emergencies and pregnancy. Obstetrics Gynecology Updates 1985, VIGOT collection, 207-212.
7. Hala ABO SHIBI. Acute appendicitis and pregnancy thesis about 5 cases Mohammed V-SOUISI University Faculty of Medicine and Pharmacy –RABAT (2008) No. 217.
8. Hee, P., & Viktrup, L. (1999). The diagnosis of appendicitis during pregnancy and maternal and fetal outcome after appendectomy. *International Journal of Gynecology & Obstetrics*, *65*(2), 129-135.
9. Soule, HM, Jayi, S., Alaoui, FZF, Chaara, H., & Melhouf, MA (2020). Management of acute appendicitis during pregnancy: about 7 cases. *PAMJ-Clinical Medicine* , *3* (37).
10. Flexer SM., Tabib N., & Peter MB. Suspected appendicitis in pregnancy. Surgeon (2009) 80, 579–587.
11. Frédéric Bretagnol; Digestive surgery in pregnancy; Flight. XIX - n° 6 - November-December 2016
12. LANSAC J., FIGNON A., DE CALAN L., & BENARDEAU M.H. Encycl. Med. Surgery, (Paris-France), Obstetrics. 5049 D10, 1992, 10.
13. LEROY J.L. Appendicitis during pregnancy. Difficulties in diagnosis and treatment. Med. Surgery. Digestive, (1981), 10, 143-147.