

# Acute cholecystitis and pregnancy: A case report

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**Abstract :** Acute cholecystitis during pregnancy is not an exceptional condition. The frequency of acute cholecystitis during pregnancy is rare, ranging from 1 to 8 per 10,000 pregnancies. Pregnancy favours the formation of gallstones, due to increased serum and biliary cholesterol concentrations, combined with vesicular stasis secondary to biliary tract atony, associated with increased feto-placental steroid levels. The clinical picture is similar to that seen outside pregnancy, and is dominated by pain in the right hypochondrium, comparable to that of hepatic colic, and nausea and vomiting, which are common in pregnant women. Physical signs, notably fever, Murphy's sign and provoked right hypochondrium pain, strongly suggest the diagnosis of acute cholecystitis. Biology showing hyperleukocytosis is difficult to interpret due to the moderate leukocytosis during pregnancy.

**Keywords :** case report-cholecystitis-pregnancy

## Patient and observation :

The patient was 37 years old, with no pathological history, G10P10, current pregnancy estimated at 26 SA + 6J according to DDR.

Poor follow-up marked by the onset of abdominal pain in the right hypochondrium that had been evolving for 05 days prior to admission, prompting the patient to consult the health center.

Symptomatic treatment was prescribed, then, given the lack of improvement and the onset of vomiting, the patient consulted the emergency department of the Hassan II University Hospital in Fez.

General examination = asthenic patient, slightly tachycardic at 100, anicteric, apyretic.

Physical examination = sensitivity of HDT with positive Murphy's sign.

Obstetrical examination = HU increased compared with GA with Panicle, MAF + in a patient not in labor.

Biological workup = HB = 8.7 / WBC = 7390 / LIPASEMIA = 3,7 X normal / Liver workup normal / FR correct / CRP = 187 / ionogram normal.

- Abdominal ultrasonography = Ultrasonographic appearance in favor of acute cholecystitis, complicated by a small parietal collection of the vesicular fundus.

- BILI-MRI = Appearance consistent with acute cholecystitis associated with stage B pancreatitis.

- Our CAT was to hospitalize the patient, 2 large-calibre VVPs, condition the patient and start her on triaxone flagyl-based bi-antibiotherapy.

- The patient underwent surgery on 08/10/2023, undergoing retrograde cholecystectomy + lavage and drainage, with simple postoperative follow-up (discharge on D4).

- Obstetrical side = uterine contraction - / active fetal movement +

## Discussion :

Pregnancy is a high-risk period for abdominal emergencies. Indeed, during pregnancy, anatomical and physiological variations occur, making the management of these patients more delicate.

Non-obstetric abdominal emergencies are dominated by appendicular and hepatobiliary pathology. The diagnostic difficulty lies in the atypicality of clinical signs during pregnancy, since nausea, vomiting and transit disorders are the usual signs of pregnancy.

These are the usual signs of pregnancy, and their prognosis is clouded by the usual delay in diagnosis and management. Management is twofold: abdominal and obstetrical.

Surgical treatment of acute cholecystitis during pregnancy is controversial. Numerous well-conducted studies have demonstrated that surgical management of these patients is optimal, and offers many advantages over medical treatment

alone. In addition, primary cholecystostomy, as yet little studied in pregnancy, is emerging as an alternative to primary cholecystectomy. Through a review of recent literature, we aim to determine the place of each therapy in the management of these patients. Sources: Medline and Pubmed databases were used for the literature search. Results and conclusions: Symptomatic medical treatment should be tried as a matter of principle, although it is not optimal. From a fetal and neonatal point of view, there are more preterm deliveries (spontaneous or induced) and admissions to intensive care; from a maternal point of view, morbidity is increased, with a risk of recurrence of the disease, often in a more severe form. Laparoscopic cholecystectomy appears to be the surgical technique of choice in both the first and second trimesters of pregnancy, up to the 32nd week of amenorrhea. Beyond that, or in cases where surgery is contraindicated, a standby cholecystostomy would seem preferable. In such cases, cholecystostomy appears to be an effective and safe method, both for the mother and her fetus, with rapid relief of symptoms.

Biliary pathology is more frequent in women, and pregnancy is a favourable factor due to compression of the gallbladder and bile ducts, vesicular atony, hypertonia of the sphincter of oddi and biochemical changes in the bile due to hormonal impregnation. The occurrence of vesicular calculi in pregnant women is therefore not uncommon, and is estimated at between 2.5% and 4.2%. (1)

Increasing levels of fetoplacental steroids explain the rising incidence of this condition during pregnancy: 8% in the first trimester, 26% in the second, 66% in the third (2).

Cholecystitis, which is lithiasis in 90% of cases, occurs in 1 to 8 pregnancies per 10,000 (3).

The patient is often a multiparous woman (nine times out of ten), in the third trimester of pregnancy, with a sudden onset of "stabbing" pain in the right hypochondrium, radiating to the shoulder and accompanied by nausea and vomiting, and a transient state of shock.

The clinical examination was poor, with palpation-induced pain in the right hypochondrium and discrete guarding. The obstetrical examination is perfectly normal, which is odd in this emergency context.

Treatment always begins with medical management:

- Bed rest.
- Ice pack.
- Probabilistic parenteral antibiotics of the third-generation cephalosporin type, secondarily adapted to the antibiogram, to be continued for 48 hours postoperatively in simple forms, and for up to 10 days in angiocholitis.
- Hydroelectrolytic resuscitation.
- Analgesics and antipyretics.
- Tocolysis if necessary from 24 to 25 SA.

For a long time, this primary medical management was recommended during pregnancy, enabling the patient to reach term and perform a cold cholecystectomy after

delivery (4). This strategy was adopted because early studies found a high incidence of fetal mortality, and the surgical option was reserved for cases of failure or jaundice (5).

Surgical treatment :

Recent publications favour early surgical management for the following reasons:

- Reduced use of analgesics.
- The recurrence rate in the case of conservative management, which ranges from 44% to 92%.
- Reduced length and number of hospital stays.
- Reduced risk of complications such as perforation, sepsis, peritonitis, angiocholitis and pancreatitis (6).

Indeed, conservative treatment of cholecystitis with stones increases the risk of biliary pancreatitis to 13% (7), which would be responsible for fetal mortality in 10% to 20% of cases (5). In addition, conservative treatment has been associated with a higher rate of spontaneous abortion, threatened preterm delivery and premature delivery than surgical treatment (6).

It's best to wait until the second trimester to perform cholecystectomy, to minimize fetal risks (7), as organogenesis is complete and the uterus is not too large. However, favorable maternal-fetal results have also been obtained in other trimesters of pregnancy (4).

Laparoscopic cholecystectomy is the preferred route, as it offers shorter hospital stays, less use of analgesics, early return to normal feeding and mobilization, fewer intraoperative uterine manipulations and better visualization of any potentially associated abdominal pathology.

Data from recent studies (6,7) have demonstrated that there

endoscopic retrograde cholangiopancreatography and bili-MRI can be performed safely during pregnancy, with the fetus protected by a lead apron. As a result, the indication for intraoperative cholangiography is becoming less and less appropriate.

less indicated, especially as there have been no studies on the effect of cholangiography on pregnancy. In all cases, a lead apron must be used. Laparoscopic ultrasonography appears to be an attractive alternative to intraoperative cholangiography for detecting residual biliary lithiasis, but experience with this technique is limited to specialized teams (1,2)

For laparotomy, the right subcutaneous incision is preferable, as it reduces the risk of postoperative ventilation (which is what we did for our patient). Verification of the main bile duct is performed by Preferably by intraoperative choledocscopy or ultrasound (6)

#### **Conclusion :**

Surgical digestive emergencies occurring during pregnancy are far from exceptional, and are estimated to occur in two out of every 1,000 pregnancies.

Any acute illness of non-obstetric origin in a pregnant woman can have fetal repercussions, and pregnancy can complicate the mother's condition and management.

The treatment of this pathology must be well codified, with the primary aim of avoiding maternal hypoxia and hypotension, which have a direct impact on fetal prognosis.

Intra-abdominal surgery during pregnancy represents a real challenge for the surgeon and obstetrician.

It should be neither rushed nor delayed

#### **Ethical aspects :**

The patient's consent was obtained for the use of his data for possible publication. We strictly respect anonymity and no image allows the identification of the patient.

#### **Contribution of the authors:**

All authors have contributed to the development of the work. All authors also declare that they have read and approved the document.

#### **Conflicts of interest**

The authors declare no conflict of interest

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