Ref: Ro Med J. 2022;69(Suppl2)
DOI: 10.37897/RMJ.2022.S2.1

Letter to the editor – Surgical diseases during pregnancy, a teamwork of professionals

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Although in the most cases pregnancies progress without complications until the term, in a small number of cases surgical diseases may occur.

The incidence of surgical diseases in pregnancy is comparable with that in non-pregnant women. It is estimated that 1.5-2% of pregnancies, from the first trimester to term, could be diagnosed and need surgery for non-obstetric reasons [1,2,3].

Diagnosis of surgical diseases in pregnancy is more difficult due to the fact that symptoms of surgical gastro-intestinal diseases (nausea, vomiting) may be confused with signs of the onset of pregnancy [4].

In the second or third trimester of pregnancy, enlarged uterus and anatomical changes may make clinical examination difficult and the classical signs of a surgical disease may be difficult to reproduce and to support an early diagnosis.

The most frequent surgical diseases encountered during pregnancy are appendicitis, cholecystitis, ovarian or adnexal torsion, breast cancer, cervical cancer.

Not only the clinical examination is difficult during pregnancy, but the laboratory findings too. Pregnancy is accompanied by physiological changes (leukocytosis) that could make difficult the evaluation of a surgical patient, especially in case of a suspected infection.

Imaging investigations are very useful to help establishing a diagnosis. Ultrasonography is familiar to the obstetrician but not for a gastro-intestinal pathology (cholecystitis, appendicitis, intestinal obstruction). So, the implication of an imaging specialist (US, MRI, and CT) is mandatory. Of all these investigation, US and MRI are considered safe for fetus. Computed tomography is recommended when it is the only available imaging machine or benefits of the investigation is exceeding the risks.

The opinions on anesthesia practice for non-obstetric surgery during pregnancy are clearly expressed by the Committee on Obstetric Practice American College of Obstetricians and Gynecologists and the American Society of Anesthesiologists. The current used anesthetics agents, given in standard doses, have no teratogenic effects or negative effects on developing fetal brain, at any gestational age [5].

A medically indicated surgery will not be postponed or denied because of fetal or maternal risks [5]. Because surgical procedures during pregnancy could be associated with a risk of premature delivery, corticosteroids should be given in the second and early third trimester to speed up fetal lung maturity [6,7].

The risk of venous thromboembolism being higher during pregnancy, pregnant patients undergoing non-obstetric surgery should receive LWMH, as prophylaxis, in adequate doses, according to their risk.

It is imperative that surgery must be done in a hospital with neonatal service. Monitoring the fetus is recommended pre and postoperatively.

Some surgical diseases need emergency surgery, as in the case of adnexal torsion, peritonitis, hemoperitoneum or intestinal obstruction. If in the case of adnexal torsion misdiagnosis or delay of surgical treatment could have as consequence adnexal necrosis with the loss of ovarian function, infertility

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Article History:
Received: 26 December 2021
Accepted: 12 January 2022

and possible loss of pregnancy, misdiagnosis or delay of surgery, in case of hemoperitoneum, peritonitis or intestinal obstruction, could even cost the woman's life.

In case of doubt, laparoscopy could be a useful surgical tool for diagnosis, especially in the first and second trimesters of pregnancy. It is especially recommended in case of suspicion of acute appendicitis, when the risk of gangrene and perforation impose mandatory appendectomy, while moderate inflammation of the appendix could be treated conservatively [8].

In the third trimester most of appendectomies are performed by open abdominal approach due to the risk of uterine injury produce by the trocar and changing the anatomical position of the appendix.

Clinical diagnosis of acute cholecystitis in pregnancy could be difficult and in case of acute pain in the right upper quadrant or epigastrium, HELLP syndrome, placental abruption, acute fatty liver, or uterine rupture must be taken into consideration as differential diagnosis [9].

In pregnant patient with the first biliary colic, the first therapeutic option recommended is supportive care. US examination should be promptly offered to know if gallstones are present. In case of repeated biliary colic and in the presence of gallstones, cholecystectomy is strongly recommended. This is the second indication for non-obstetrical surgery in pregnant patients after appendectomy.

There are few cases when pregnant patient presents to the emergency room with tachycardia and hypovolemic shock. If US reveals fetal heart activity an exploratory laparotomy should be performed as soon as possible, together with blood analysis and resuscitation. Diagnosis will be revealed during surgery and could be uterine rupture or placental abruption [5].

Caring for a pregnant woman during pregnancy, in case of a surgical disease, is based on teamwork that involves obstetricians, internal medicine specialists, gastroenterologists, surgeons, anesthetists, imaging specialists, neonatologists, laboratory and blood bank. Their prompt action and professionalism will be essential to the health of the mother and fetus.

Conflict of interest: none declared
Financial support: none declared

REFERENCES

1. Vujic J, Marsoner K, Pump-Lipp AH, et al. Non-obstetric surgery during pregnancy – an eleven-year retrospective analysis. *BMC Pregnancy and Childbirth* 2019;19(382):1-5.
2. Tolcher MC, Fisher WE, Steven C. Non-obstetric Surgery During Pregnancy. *Obstetrics & Gynecology.* 2018;132(2):395-403.
3. Christiansen CF, Uldbjerg N, Nogaard M. Obstetric and non-obstetric surgery during pregnancy: A 20-year Danish population-based prevalence study. *BMJ Open* 2019;9:e028136.
4. Dietrich CS, Hill CC, Hueman M. Surgical diseases presenting in pregnancy. *Surg Clin North Am.* 2008 Apr;88(2):403-19, vii-viii.
5. ACOG. Committee Opinion. Non-obstetric Surgery During Pregnancy, Number 775, April 2019. *Obstet Gynecol* 2019 Apr;133(4):e285-e286.
6. Schwarzman P, Baumfeld Y, Bar-Niv Z, et al. The effect of non-obstetric invasive procedures during pregnancy on perinatal outcomes. *Archives of Gynecology and Obstetrics.* 2015;292:603-608.
7. Balinskaite V, Bottle A, Sodhi V, Rivers A. The Risk of Adverse Pregnancy Outcomes Following Non-obstetric Surgery During Pregnancy. Estimates From a Retrospective Cohort Study of 6.5 Million Pregnancies. *Annals of Surgery.* 2017;266(2)260-266.
8. Frountzas M, Nikolaou C, Stergios K, et al. Is the laparoscopic approach a safe choice for the management of acute appendicitis in pregnant women? A meta-analysis of observational studies. *Annals Royal College of Surgeons of England.* 2019;101(4):235-248.
9. Koti SR, Davidson CJ, Davidson BR. Surgical management of acute cholecystitis. *Langenbeck's Arch Surg.* 2015;400(4):403-19.