

## **OPERATIVE STRATEGY IN ACUTE SURGICAL ABDOMEN OF NON-TRAUMATIC EXTRAGENITAL ORIGIN ASSOCIATED WITH PREGNANCY**

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OPERATIVE STRATEGY IN ACUTE SURGICAL ABDOMEN OF NON-TRAUMATIC EXTRAGENITAL ORIGIN ASSOCIATED WITH PREGNANCY (Abstract): The association between acute surgical abdomen of non-traumatic extragenital cause and pregnancy is very rare, making assessment difficult. Consequently, a standard protocol of surgical conduct has not been established, making it necessary to often resort to intraoperative improvisations. These, however, (usually done last and poorly thought out) may generate errors. Such risks be reduced by using the experience of properly resolved cases reported in the literature. This article presents an operative strategy recommended in cases of a combination of non-traumatic acute surgical abdomen and pregnancy according to the position and etiology of the surgical condition and the age of the pregnancy. **Keywords:** NON-TRAUMATIC, ACUTE ABDOMEN, PREGNANCY.

The association between acute surgical abdomen of non-traumatic extragenital origin and pregnancy is very rare, thus making it very difficult to determine its incidence (1, 2). Due to the low incidence of this association, no standard surgical protocol was established, and intraoperative improvisation is consequently often resorted to. Such improvisation, however, adopted quickly and poorly thought out, can contain errors. This risk can be reduced by using properly resolved cases reported in the literature. The conclusions (hat can be drawn from studying such cases can be useful to other surgeons as well, from the perspective of potential encodings which would ensure an optimum assistance that

would be possible for both components of the association. According to the moment in which the condition causing the surgical acute abdomen sets, we can distinguish between two categories: Treatment for acute surgical abdomen is performed in the first trimester of pregnancy, letting the pregnancy to evolve; the treatment for acute abdomen is also useful for the evolution of the pregnancy, reducing the risk of spontaneous abortion. In the second and third trimesters of pregnancy, the surgical acute abdomen can have a supra- or subumbilical cause.

**When the acute abdominal surgical disease is supraumbilical** and the pregnancy is under 32-33 weeks, abdominal sur-

gery can be performed first, leaving the pregnancy to evolve. Such cases have already been reported in the literature; the cases of Talwar *et al* (3), generalized biliary peritonitis caused by a perforation of the gallbladder and a large sub hepatic abscess caused by a perforation of the common bile duct; the case of Essen *et al.* (4) of duodenal ulcer; the case of Sajad *et al.* (5), 34 weeks of pregnancy associated with a splenic artery aneurysm rupture and hemoperitoneum, for which hemostasis and splenectomy were performed, and the pregnancy was left to evolve, etc. (3-5). A special situation is represented by the case of a fissured or broken splenomegaly when a difficult splenectomy is foreseen, and the pregnancy is older than 32-33 weeks. In this case, surgical intervention is recommended by performing a caesarean section with Pfannenstiel incision to create a comfortable surgical field for splenectomy, maintaining the fetus under the influence of general anesthetics for the shortest time possible. Even in the case in which the pregnancy comes near term, in the presence of a normal spleen, caesarean section with Pfannenstiel incision is performed for the same reasons described above. If a supraumbilical midline incision is necessary for the acute abdominal disease, Pfannenstiel incision is performed for the caesarean section to avoid a xifopubic incision (presenting a higher risk of postoperative hernia).

In the case in which the **abdominal surgical disease is located in the subumbilical space** (i.e. acute perforated appendicitis, ileo-ileal invagination through primitive tumor, perforation of Meckel's diverticulum, intestinal obstruction through clamp and adhesions located down into the abdominal cavity, in an old inflammatory

focus or genital operator, perforated Crohn's disease, perforated ulcerative colitis, intraperitoneal abscess located in the subumbilical space), diagnosis and surgical-related difficulties could occur (6-8).

**The pregnancy associated uterus develops anteriorly**, as compared to the acute pathological surgical subumbilical situations mentioned above. Even a pregnancy of 32-33 weeks can cover and hide a surgical acute abdominal disease, creating great difficulties in its diagnostic and therapy. Therefore, we are obliged to start with the caesarean section (with median subumbilical incision) to reduce the uterine volume and to allow the approach of the surgical acute abdominal disease, for diagnostic and therapeutic purposes: MRI without oral or intravenous (gadolinium) contrast administration is a valuable adjunct to ultrasound during pregnancy; MRI and CT performed equally well in the evaluation of acute nontraumatic abdominal pain during pregnancy. Given its lack of ionizing radiation, MRI may be preferable (9); Aytekin O. *et al* (10) has used only MRI in the triage of pregnant patients with acute abdominal and pelvic pain, given its lack of ionizing radiation.

If the caesarean section is performed in a peritonitis environment (acute perforated appendicitis with peritonitis), it should be continued by subtotal hysterectomy (because it is more expedient and less bloody than the total one) to avoid a serious or even fatal postpartum infection of the uterine sectioned remnants for which treatment with antibiotics could not guarantee survival. It is after the caesarean section (and hysterectomy) that the acute surgical abdominal disease can be operated on. If the resection of an unviable intestinal loop is necessary in an occlusion by strangulation,

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without installed peritonitis, post-caesarean hysterectomy is unnecessary (treatment with broad-spectrum antibiotics being available in this case), provided that the loop resection and enteroanastomosis be executed in aseptic surgical conditions (without peritonitis) (Negură's case with ileal invagination through tumor, with intestinal loop resection and, at the same time, termino-terminal intestinal anastomosis, with a favorable evolution) (11).

In prolonger paralytic ileus, Parswa (12) affirms: "if the K seric level maintains at more 4 mmol/L, if any prolonged paralytic ileus persists more a week and if the general condition of health starts modifies, probably there is a mechanical cause which can hide a mechanical obstruction of the bowels". Thus, Parswa considers that laparotomy is necessary (eventually after a radiologic investigation).

Mechanical occlusion of the small intestine should be distinguished from prolonged paralytic ileus by two methods:

1. method of two vertical radiographs taken at 3-hour interval (13);
2. opaque index examination (water-soluble opaque substance administered orally or barium enema (14).

Radiotherapy must not exceed 5 rad (0.05 Gy). If the gaseous distension of the small bowel with air-fluid levels on the first radiograph remains unchanged on the second radiograph, and there is no change in the topography of the persistent, fixed air-fluid images and the colon is gasless (not seen), surgery is required (14). Stoppage in the progression of opaque index at a given time and at intestinal level suggests a diagnosis of mechanical obstruction and of emergency surgery (14). Prolonged paralytic ileus is associated with fever suggests peritonitis (15,16).

If the post-gangrene intestinal peritonitis has already set, post-c section hysterectomy is required. Schraut "recommends intestinal resection, bringing the intestinal ends to the abdominal wall as temporary stomas, postponing enter anastomosis to restore intestinal continuity for another time (because an enter anastomosis performed in a peritonitis environment does not hold and will break open)" (17). The surgery is very laborious (non-minimal), posing a vital risk, yet this catastrophic situation arises due to a late diagnosis of strangulated intestinal obstruction. For this reason, in case of an occlusion hidden behind a gravid uterus, difficult to diagnose, possibly with indirect signs of strangulation (hyperleukocytosis and acidosis), the surgeons arguing that early surgery is preferable even if the laparotomy is unnecessary, but not catastrophic.

In the exceedingly rare case in which the acute abdominal surgical disease is associated with a multipara pregnancy in the third trimester, with preeclampsia or eclampsia and liver hematoma revealed by ultrasound, caesarean section is began with to interrupt the physio pathological chain of preeclampsia and to prevent hepatic rupture and a related massive hemoperitoneum (8).

Another rare case is that of multipara pregnancy in the third trimester, with or without eclampsia, with spontaneous rupture of the spleen, most commonly two-stroke.

The first stroke is the painful syndrome in the upper left quadrant, which requires (if the fetus is alive and mature) caesarean section and splenectomy to prevent the second, more dangerous, stroke, i.e. hemorrhagic syndrome with hemoperitoneum and severe hemorrhagic collapse (18).

## CONCLUSIONS

Our scientific paper is an up-dated for management of association between an acute surgical abdomen disease and pregnancy. It

points out the most difficult hypostases, avoid dangerous improvisations, giving the most adequate solutions with a view to obtaining best results for mother and baby.

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