Cecal volvulus during pregnancy. Case report

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Introduction. Acute intestinal obstruction in pregnancy is a rare, but life-threatening complication associated with high fetal and maternal mortality.

Case report. A 20-year old gravida presented with a 24 hour history of several episodes of vomiting, complete constipation and severe crampy abdominal pain. The patient was admitted with the diagnosis of acute abdomen associated with septic shock. On examination echography showed distended intestinal loops and presence of free peritoneal fluid. Abdominal X-ray with shielding of the fetus revealed colonic air-fluid levels. The obstetrician consulted diagnosed dead fetus in uterus and was decided to operate immediately. On laparotomy was found complete cecal volvulus with gangrene of cecum, part of ascending colon and terminal ileum. A right hemicolectomy was performed with side to side ileotransverse anastomosis. Afterwards a lower segment cesarean section was made and a stillborn fetus was delivered. The patient made an uneventful recovery and was discharged on 9th postoperative day.

Conclusion. Cecal volvulus during pregnancy is a rare, but serious surgical problem. Correct diagnosis may be difficult until exploratory laparotomy is performed. Undue delay in diagnosis and surgical treatment can increase the maternal and fetal mortality.

SUMMARY: Cecal volvulus during pregnancy. Case report.

RIASSUNTO: Volvolo del cieco in gravidanza. Caso clinico.

KEY WORDS: Cecum - Volvulus - Pregnancy - Bowel obstruction.
Cieco - Volvolo - Gravidanza - Ostruzione intestinale.
symptoms and signs are the same as in non-pregnant women, but in cases of gangrenous bowel the clinical presentation is of extreme gravity and immediate resection, after successful resuscitation, is mandatory (4, 7).

Cecal volvulus is an important entity to consider in any pregnant patient with severe abdominal pain and shock (8). It demands from the general surgeon and obstetrician a high index of diagnostic suspicion; prompt diagnosis and immediate resuscitation and surgical treatment (9).

Case report

A 20-year old gravida 1 at 27 weeks of pregnancy was admitted to Surgical Emergency Service UHC "Mother Theresa" with the diagnosis of acute abdomen. She presented with history of several episodes of vomiting, complete constipation and severe crampy abdominal pain since 24 hours.

On physical examination the patient looked extremely ill: pulse rate was 168 b/min; blood pressure was 90/60 mmHg; and respiratory rate was 40 resp/min. The abdomen was distended and there was presence of generalized tenderness. Prompt resuscitation was initiated and a gastric tube was inserted. Her laboratory tests were as follows: WBC 29 000/mm³; RBC 2 890 000/mm³; Hb 8,9 g/dL; Htc 29%; glucose 114mg/dL; amylase 117 U/L, all other tests were normal.

Abdominal ultrasound showed distended intestinal loops (10 cm) and revealed the presence of free peritoneal fluid (Fig. 1). Direct X-ray with shielding of the fetus revealed signs of intestinal obstruction (Fig. 2).

The obstetrician–gynaecologist consulted diagnosed dead fetus in utero and jointly was decided to operate immediately. A midline laparotomy was made and 2 litres of necrotic – haemorrhagic fluid were aspirated from the peritoneal cavity, as a consequence of complete (closed loop) cecal volvulus in clockwise direction with frank gangrene of cecum, part of ascending colon and terminal ileum (Fig. 3).

In this extreme situation, a right hemicolectomy was immediately performed with side to side ileo-transverse anastomosis (Fig. 4).

Afterwards, a lower segment cesarean section was made and a "stillborn" fetus was delivered (dead fetus in utero). After complete hemostasis and peritoneal drainage, drains were placed in Morrison cavity, left subphrenic space and Douglas pouch. The patient received 1 unit of cross-matched blood intraoperatively. Postoperatively, the patient was treated in ICU for 4 days. WBC returned normal on 2nd postoperative day. The patient made an uneventful recovery and was discharged from hospital on 9th postoperative day.

Discussion

The incidence of cecal volvulus is 25–44% (of all causes of mechanical obstruction during pregnancy) (3, 4), increases with duration of gestation and is greatest at time of rapid uterine size changes. Most commonly, obstruction occurs in the third trimester, when maternal mortality can be as high as 10 – 20% (4, 6). As the uterus enlarges during pregnancy, it raises the cecum out of pelvis, increasing the incidence of the cecal rotation around a fixed point (4, 10). The degree of twisting of the bowel can vary...
from 90 – 360 degrees or more and can occur in an
clockwise or anticlockwise direction (9, 11). Complete ro-
tation will result in a closed loop obstruction, leading to
trapping of intestinal contents within the loop and com-
promise of the vascular supply, resulting in necrosis (12).
In later stages, the distended bowel together with extra-
vasated fluid can cause abdominal compartment syndrome
and severe shock (9, 11, 12). The abdominal distention
can also lead to severe compromise in respiratory function.

The clinical presentation of cecal volvulus during preg-
nancy is difficult to assess. The uterus, cervix and adnexa
share the same visceral innervation as the lower ileum,
cecum and following segments of colon and distingui-
shing between pain of gynecologic and gastrointestinal
origin is very difficult (4, 13). Severe crampy abdomi-
nal pain, complete constipation and frequent vomiting
are the typical symptoms of cecal volvulus in pregnancy
(14). The diagnosis of cecal volvulus can be made with
abdominal plain X-ray with 95% sensitivity. Abdomi-
nal ultrasound is helpful in diagnosis, but with lesser sen-
sitivity. Limited use of x-rays with shielding of the fetus
is of minimal risk and useful for early diagnosis of ce-
cal volvulus (5, 8, 14, 15). Because the cecum is mobi-
le, the dilated cecal loop may actually appear anywhe-
ere in the abdomen (7, 15). The presence of air – fluid
levels is diagnostic, as in nonpregnant women (16). The
significant maternal and fetal mortality associated with
bowel obstruction outweigh the potential risk of fetal
radiation exposure (4).

The therapeutic algorithm is the same for pregnant
and nonpregnant women. Unsuccessful medical treat-
ment, or the appearance of septic shock in association
with severe crampy abdominal pain and tenderness war-
rant immediate surgical exploration. The presence of gan-
grenous bowel makes prompt resection mandatory (4,
6-9, 14, 17). The surgical techniques described for ce-
cal volvulus are cecostomy, cecopexy, resection with ileo-
stomy and resection with primary anastomosis (4, 15).
Resection eliminates the possibility of recurrence, usual-
ly resulting in low morbidity and mortality and is always
indicated if bowel necrosis is evident (4, 7, 8, 12, 14, 17).
Maternal mortality can range from 6-20%. Fetal death
following maternal intestinal obstruction is between 20-
26% (1, 2, 6, 8, 9, 15).

References