Sigmoid Volvulus after Medical Management with Subsequent Operative Laparoscopy of Unruptured Ectopic Pregnancy

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Key Words
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Abstract
The use of methotrexate (MTX) as a first-line treatment of ectopic pregnancies has become popular recently. This report details a previously unreported complication of MTX treatment. Presumptive ectopic pregnancy with an initial β-hCG level of 3,500 mIU/ml was treated with a single intramuscular dose of 50 mg/m² MTX. Three weeks later with a β-hCG level of 870 mIU/ml, the patient was operated for suspected rupture of ectopic pregnancy. Laparotomy revealed left aborted tubal pregnancy with active bleeding from left fimbria and estimated 2,000 ml of blood in the cul-de-sac. Left salpingectomy was performed. Two days later the patient developed signs of large bowel obstruction. The second laparotomy revealed sigmoid volvulus, that was treated with detorsion of the sigmoid loop. Although generally safe and effective, MTX should be used with utmost care in treatment of ectopic pregnancies.

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Introduction
The use of methotrexate (MTX) has become an accepted conservative treatment of ectopic pregnancies [1, 2]. This report details appearance of sigmoid volvulus after MTX treatment, a previously unreported complication of medical management of ectopic pregnancy.

Case Report
A 37-year-old woman, gravida 2, para 1, completely asymptomatic, presented to the emergency room with suspected ectopic pregnancy. Her last menstrual period had been 6 weeks prior to admission. Examination of the abdomen demonstrated no rebound tenderness and pelvic examination revealed a slightly enlarged uterus with tender slightly enlarged left adnexa. Transvaginal sonographic examination demonstrated irregular echogenic foci in the uterus without a gestational sac. On the left side of the uterus a 40 × 30 × 20 mm complex consistent with ectopic pregnancy was identified without measurable fluid in the cul-de-sac. Serum β-hCG was 3,000 mIU/ml (Second International Standard). A tentative diagnosis of unruptured left tubal pregnancy was made and the patient was admitted for expectant management.
On the next day, β-hCG concentration declined to 2,800 mlU/ml. On day 3, serum β-hCG rose to 3,500 mlU/ml, sonographic examination was consistent with unruptured ectopic pregnancy, the patient was asymptomatic and the decision was made to proceed with low-dose MTX treatment. This was given in a single intramuscular dose of 50 mg/m2. Serum β-hCG was followed ambulatorily and gradually declined. Three weeks later with a β-hCG level of 870 mlU/ml, the patient suddenly complained of severe lower abdominal pain and was referred again to our emergency room. On admission, rebound tenderness was found in the low abdomen.

Sonographic examination

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revealed a significant amount of fluid in the cul-de-sac. Laparoscopy revealed left aborted tubal pregnancy with active bleeding from left fimbria and estimated 2,000 ml of blood in the cul-de-sac. Because of severe pelvic adhesions and severely damaged tube, left salpingectomy was performed by laparotomy. The pregnancy was found adherent to the sigmoid mesentery. Two days later the patient developed cramping and lower abdominal pain, progressive abdominal distension, nausea, vomiting and absence of flatus. Plain film of the abdomen was suggestive of sigmoid volvulus. Failed attempts of detorsion by barium enema and colonoscopy were undertaken followed by successful operative detorsion of the sigmoid loop. The postoperative period was uneventful. After the surgery the patient denied any history of chronic constipation or intermittent crampy abdominal pain.

Conclusion

This case illustrates the potential hazard of conservative medical treatment of ectopic pregnancy with MTX. MTX is not known to cause volvulus of the sigmoid. However, it is distinctly uncommon for sigmoid volvulus to occur in a person who leads an active life and who has no serious mental or physical illness [3]. We postulate that the volvulus occurred in a freely movable segment as a consequence of either sigmoid manipulation during first laparotomy, or hemoperitoneum, or adherence of the ectopic to sigmoid mesentery, or prolonged period of inactivity, or a combination of all or some of these factors. Hence, rather than MTX by itself, the preference of conservative medical treatment of ectopic pregnancy induced the cascade of events that led to sigmoid volvulus.

The question of medical management of ectopic pregnancy is a difficult one, especially because there is a recent trend to treat tubal pregnancies more conservatively [4]. It is usually accepted that if the patient with presumptive ectopic pregnancy and declining β-hCG is asymptomatic or has only mild discomfort, surgery is unnecessary and expectant management or medical treatment is warranted [2]. However, tubal rupture could occur during conservative management even with declining β-hCG levels and without MTX [5].

Clearly, we do not suggest that MTX treatment of ectopic pregnancy is unsafe. Moreover, our case is a rare exception of the rule rather than the rule itself. Nevertheless, the case points out the necessity of utmost care in medical (MTX) treatment of ectopic pregnancy.

References

Complication of Medical Management of Ectopic Pregnancy Gynecol Obstet Invest 1997;43:204-205