

# Rupture of uterine serosal hematoma: delayed complication of uterine perforation

**H.J. Seol, K.D. Ki**

*Department of Obstetrics & Gynecology, Kyung Hee University Hospital at Gangdong, Seoul (Korea)*

## Summary

Uterine perforation, a major complication of dilatation and curettage (D&C), is typically recognized at the time of the procedure. Large defects in the uterine wall or injury to other intraabdominal organs can result in an acute abdomen requiring immediate surgical treatment. On the other hand, small perforations usually resolve on their own without any long-term consequences. Here, the authors report a case of delayed hemoperitoneum, ten days after the D&C evacuation of an early pregnancy. Initially, intramural pregnancy was the suspected etiology. However, histopathology suggested that the inciting event was the rupture of a serosal uterine hematoma, which likely resulted from an incomplete uterine perforation during D&C. The patient did well after undergoing an uneventful laparoscopy.

**Key words:** D&C; Delayed complication; Uterine perforation; Laparoscopy.

## Introduction

One of the most common complications of dilatation and curettage (D&C) of early pregnancy is uterine perforation. Usually, conservative therapy is sufficient for if the perforation is small, caused by a small instrument such as a uterine sound [1]. However, even a relatively small perforation can lead to a potentially lethal hemorrhage requiring an emergent operation as an immediate or short-term consequence [2]. Here, the authors report an unusual case of delayed acute haemoperitoneum secondary to rupture of a uterine serosal hematoma caused by an incomplete uterine perforation.

## Case Report

A 29-year-old, gravida 2, para 1, woman arrived at the present emergency department with acute abdominal pain and vaginal bleeding developed earlier that day. On systemic examination, there was marked lower abdominal tenderness with rebound tenderness. She also showed mildly anemic conjunctiva. The patient was in a hypovolemic state with a blood pressure of 85/50 mmHg, heart rate of 90 bpm, and body temperature of 36.2°C. Urine pregnancy test was positive; however she had a history of D&C ten days previously. Therefore, the test was regarded as a false positive, detecting remnant serum beta-human chorionic gonadotropin (beta-hCG). Transvaginal ultrasound showed normal thin endometrium with no evidence of intrauterine pregnancy and a large amount of fluid collection in the pelvic cavity, suggestive of haemoperitoneum (Figure 1). Diagnosis of ruptured ectopic pregnancy previously missed, was made, and exploratory laparoscopy was performed. On laparoscopic examination, a 1.5 cm sized bleeding mass was identified at the surface of uterine fundus. Other pelvic organs were found to be grossly normal (Figure 2). Again, the lesion was believed to be an ectopic gestation at an unusual site such as an intramural pregnancy, and excision was performed uneventfully. However, histopatho-

logic study of the specimen revealed only mesothelial cells covering hematoma without any trophoblastic tissue (Figure 3). The patient recovered well and her serum beta-hCG level at postoperative day 9 was 14.3 mIU/ml, down from initial levels of 650 mIU/ml.

## Discussion

D&C during early pregnancy is a relatively safe procedure. Common complications directly associated with the procedures are infection, hemorrhage, uterine perforation, and incomplete abortion [3]. The actual incidence of uterine perforation during surgical evacuation of early pregnancy is uncertain because many cases can go undetected by the operator during the procedure [1]. The most commonly perforated sites are the uterine fundus, which is relatively avascular compared to the cervix and lateral body. If uterine perforation is suspected, simple observation in the outpatient setting is usually appropriate for detecting any significant internal bleeding. Transvaginal ultrasound is also often helpful in demonstrating free fluid in the pelvic cavity indicating haemoperitoneum. Severe haemoperitoneum is a rare acute consequence of uterine perforation requiring emergency surgical treatment. In this case, the authors encountered a delayed haemoperitoneum occurring ten days after the procedure. It appears that the cause was the rupture of a serosal hematoma at the uterine fundus, as there were no uterine defects or injured vessels. The authors suspect that the hematoma was caused by an incomplete uterine perforation, not penetrating the uterine serosa. The protruding mass was likely the accumulation of blood under the serosal surface, which eventually ruptured. The literature describes a similar case, that of a uter-

Revised manuscript accepted for publication January 14, 2014

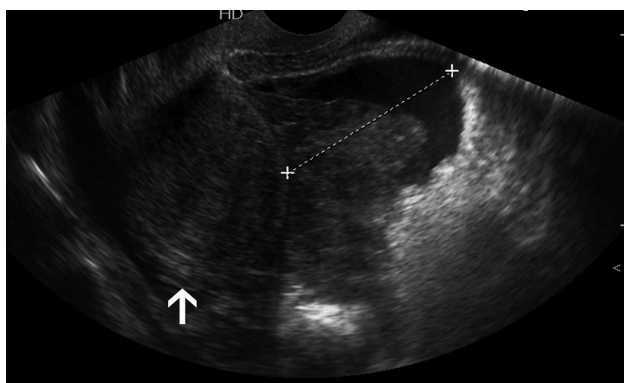


Figure 1. — Transvaginal ultrasonography demonstrates an empty uterine cavity (arrow) and large amount of fluid accumulated in the pelvic cavity, suggestive of haemoperitoneum.

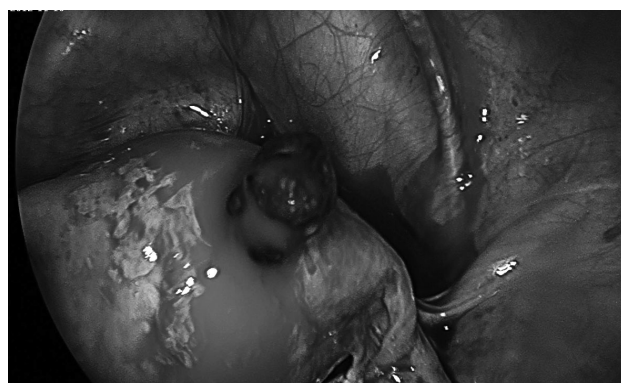


Figure 2. — Laparoscopy showing a 1.5 cm bleeding mass at the uterine fundus under the serosal surface.

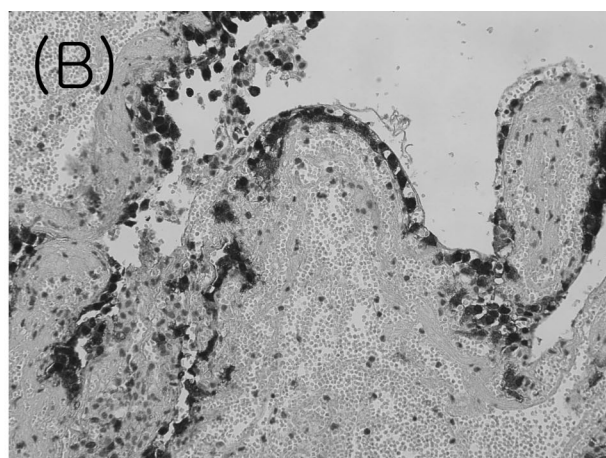
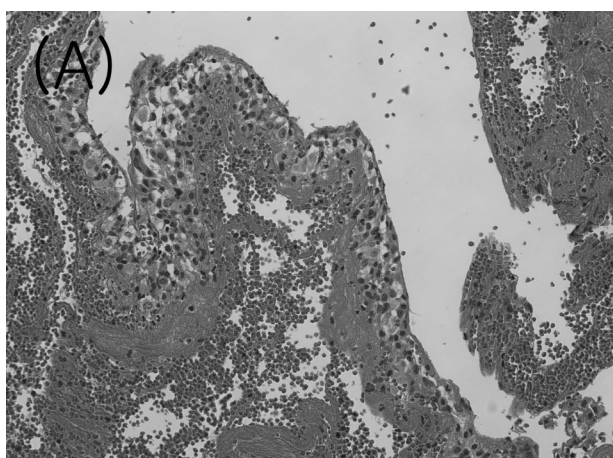


Figure 3. — (A) The epithelial nests show bland-looking cytologic features admixed with inflammatory cells on a background of hematoma. ( $\times 200$ ). (B) Immunohistochemical staining for calretinin identifies the epithelial cell nests as mesothelial cells of the peritoneum ( $\times 200$ ).

ine perforation during surgical evacuation occurring at an area thinned by the scar of a previous cesarean section. The defect was filled by the formation of a hematoma [4]. However, in the present case the rupture of the hematoma was an unusual delayed complication of uterine perforation resulting in acute life-threatening haemoperitoneum. This case illustrates the potential need of close follow-up of asymptomatic patients and careful instructions regarding symptoms suggestive of internal bleeding, when perforation is suspected. Also, low threshold for high suspicion for perforation during the procedure is fundamental to uterus and visceral organs.

## References

- [1] Kaali S.G., Szigetvari I.A., Bartfai G.S.: "The frequency and management of uterine perforations during first-trimester abortions". *Am. J. Obstet. Gynecol.*, 1989, 161, 406.
- [2] Bartlett L.A., Berg C.J., Shulman H.B., Zane S.B., Green C.A., Whitehead S., Atrash H.K.: "Risk factors for legal induced abortion-related mortality in the United States". *Obstet. Gynecol.*, 2004, 103, 729.
- [3] Hakim-Elahi E., Tovell H.M., Burnhill M.S.: "Complications of first-trimester abortion: a report of 170,000 cases". *Obstet. Gynecol.*, 1990, 76, 129.
- [4] Crosfill F.M., Hughes S.: "Ultrasound scan appearance of perforated uterus after surgical evacuation of retained products of conception". *J. Obstet. Gynecol.*, 2006, 26, 278.

Address reprint requests to:

H.J. SEOL, M.D.

Department of Obstetrics and Gynecology  
Kyung Hee University Hospital at Gangdong  
892, Dongnam-ro, Gangdong-gu,  
Seoul 134-727 (Korea)  
e-mail: seolhj@khu.ac.kr