Abstract

In the present case uterine perforation during the laparoscopic tubal passage control after hysteroscopic resection of septum is presented. Hysteroscopic septum resection by monopolar loop resectoscope was performed after laparoscopic confirmation of the diagnosis of a septate uterus in a 27 year old, gravida 1, spontaneous abortion 1 woman. The vaginal septum was resected safely. When chromopertubation was done with methylene blue under laparoscopic control, the uterus was perforated. The perforation was sutured by laparoscopic intracorporeal suturing. Performing chromolaparoscopy after hysteroscopic resection of uterine septa may cause uterine perforation. Hemorrhage from the perforation can be managed by laparoscopic intracorporeal suturing.

Keywords: Uterine perforation; Septate uterus; Chromolaparoscopy; Hysteroscopy

Introduction

Uterine septum is reported to be the most common congenital anomaly of the female reproductive tract, with an incidence of 80 - 90% of all major malformations both in women with recurrent pregnancy loss and in the general population [1, 2].

Operative hysteroscopy, to avoid the risks of open surgery, has become the standard treatment for uterine septa. Uterine perforation is the most common complication of hysteroscopy. In most studies, hysteroscopy is complicated by confirmed uterine perforation in 0.8 to 1.6% of operative procedures [3-6]. The perforation rate is less during diagnostic hysteroscopy (eg, 0.1 versus 1% with operative hysteroscopy in a series of 13,600 procedures) [4].

The aim of the present case report is to demonstrate an unusual cause of uterine perforation due to methylene blue dye control for tubal patency after hysteroscopic resection of uterine septum. To the best of our knowledge, there has been no published data related to the uterine perforation at the time of methylene blue control for tubal patency.

Case Report

A 27-year-old, gravida 1, spontaneous abortion 1, woman with a Mullerian anomaly at hysterosalpingography (HSG) with a complaint of chronic dysmenorrhea and desire of pregnancy was admitted to the hospital. She had been married for 1.5 years. She conceived naturally at the end of the first year, but she miscarried at her 8th weeks of gestation. During her first visit after the abortion, a septate uterine anomaly as the possible cause of her miscarriage was suspected with an ultrasonographic examination. HSG was scheduled.

The hysterosalpingographic appearance of the patient’s uterus is shown in Figure 1. With this appearance the radiologist reported a bicornuate uterus; however, as gynecologists we thought this to be a septate uterus. Therefore, laparoscopic approach was needed to confirm the diagnosis of this Mullerian anomaly. At three port standard laparoscopy, the uterine fundus was in dome shape confirming that the uterus was not bicornuate (Fig. 2a). While the laparoscopic ports...
were left in situ, hysteroscopy was initiated. No pretreatment was used in order to ease cervical dilatation or endometrial visualization. Rigid Hegar dilators up to #9.5 was applied before the rigid 8 mm operative hysteroscope (RZ-Medizintechnik GmbH) was inserted into the uterine cavity. In hysteroscopy, 30° optic was used. For operative procedure a monopolar electrosurgical instrument (wire loop) and 1.5% glycine as distention media were used. The uterine septum was visualized and cut with monopolar current (40 watts) (Fig. 2b). Both tubal ostia were visualized without complication. We decided to control the tubal passage by laparoscopy and intact dome shaped uterine fundus was confirmed again.

Figure 2. a: Dome shaped uterine fundus before septum resection b: Hysteroscopic septum resection c: Intact uterine fundus after the septum resection d: Perforation of the uterus by pressure of methylene blue dye.

Figure 3. a: Uterine perforation from the fundus b: Bleeding from the perforation site c and d: Intracorporeal suture to control the bleeding and restore the uterine wall integrity.
Cause of Uterine Perforation Secondary

The role of hysteroscopic septoplasty in patients with primary infertility remains controversial. Some investigators recommend treatment in this situation [12, 13] but others do not [14]. There is currently a lack of good randomized, controlled data. It should be emphasized, however, that a randomized, controlled trial is difficult to mount because this malformation is a cause of abortion and to a great extent it would not be ethical to randomize affected women to a “no treatment” group. Other investigators argue that the treatment is worth considering not only because of its possible beneficial effects on fecundity but also because of the potential benefits of reduced rates of miscarriage and preterm labor if these women conceive, especially those undergoing assisted reproductive techniques [13, 15].

In a recent series of septoplasty, in 2/64 (3%) patients uterine perforation occurred. In both cases no adjacent organs were injured and the complication was managed by bipolar coagulation. No sutures were applied. No postoperative episode of fever was noted [2]. According to our experience attempting to stop bleeding from the perforation with monopolar or bipolar energy modalities is not always successful. Furthermore, we believe that uterine wall integrity would be more securely maintained by the aid of suturing rather than coagulation, because thermal damage around the perforation could result more fibrotic healing. Therefore, we chose intracorporeal suture to repair the defect on the uterine wall.

Since HGS was interpreted as bicornuate uterus by radiologist, in our case we used combined laparoscopic approach and hysteroscopy for the diagnosis of septate uterus. Homer et al. reported that reliable diagnosis of the septate uterus depends on accurate assessment of the uterine fundal contour. They suggested that combined use of laparoscopy and hysteroscopy is the gold standard for diagnosis, although reports of two-dimensional, transvaginal, contrast ultrasound and three-dimensional ultrasound appear promising [16]. Carrascosa et al. recently demonstrated that virtual hysterosalpingography clearly distinguishes bicornuate from septate uterus [17]. Although noninvasive new technologies ameliorate in the differential for bicornuate vs. septate uterus, laparoscopy still stays as the gold standart.

Lessons learned

1. Diagnosis of Mullerian anomalies is not always possible with noninvasive methods. The reports of HSG should be confirmed by laparoscopic evaluation as the gold standard before attempting hysteroscopic intervention.

2. After laparoscopic confirmation of Mullerian anomaly, trocars should be left in place till the end of the hysteroscopic resection of uterine septa.

3. During the laparoscopic chromopertubation the intrauterine pressure of the methylene blue may perforate the uterus, therefore tubal passage control might be postponed.
The reason for perforation could be either due to overtreatment of the uterine septum or congenital weakening of the myometrium at the septal area.

4. Perforation with the pressure of methylene blue may require hemorrhage control and at this point intracorporeal suturing rather than coagulation of the bleeding site may cause less damage to the uterine wall ingegrity.

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References