

# POSTCONIZATION CERVICAL PERFORATION DURING LAPAROSCOPIC SURGERY

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## SUMMARY

**Objective:** Complications during laparoscopic surgery involving the bladder, bowel, and major vessels have been reported extensively. However, uterine manipulator-associated injuries are seldom reported.

**Case Report:** We describe herein the case of a 28-year-old female patient who underwent a laparoscopic cystectomy 5 days after cervical conization, during which the uterine manipulator perforated the anterior cul-de-sac through the cervix. Fortunately, the wound healed with conservative treatment and no adverse consequences were found.

**Conclusion:** This case serves to highlight the potential for complications following seemingly benign maneuvers. [*Taiwanese J Obstet Gynecol* 2007;46(1):71–72]

**Key Words:** laparoscopic complication, perforation, uterine manipulator

## Introduction

Intrauterine manipulators have been established as a standard fixture in laparoscopic surgery. Complications during laparoscopic surgery most commonly involve the bladder, bowel, and blood vessels. Not surprisingly, cervical perforations have been reported during cervical dilatation in two patients with cervical stenosis (cervical os < 2 mm). Use of uterine sound and cervical dilatation increases the risk of perforation in patients with cervical stenosis [1]. We now add to the literature's record of laparoscopic complications with this case of a uterine manipulator perforating the cervix into the anterior cul-de-sac.

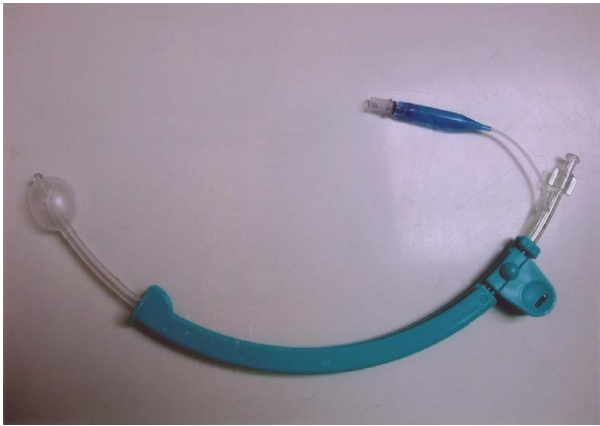
## Case Report

The patient was a 28-year-old woman, gravida 2 para 2, who had a history of two uneventful full-term

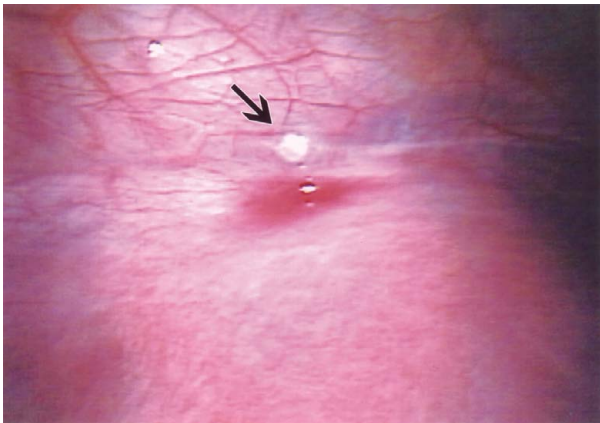
spontaneous deliveries. She sought evaluation from us for a 2-month history of worsening lower abdominal pain and bloody vaginal discharge. Transvaginal sonography 6 months earlier had revealed a cyst filling the posterior cul-de-sac. As part of our initial evaluation, a high-grade squamous intraepithelial lesion was indicated by Pap smear analysis and confirmed with colposcopic biopsy. The patient underwent a loop electrosurgical excision procedure (LEEP) of the cervix without complication. The cone-shaped specimen measured 0.8 cm in diameter and 1.5 cm in length, the pathologic diagnosis of which was cervical intraepithelial neoplasia III with clear margins.

A laparoscopic cystectomy was scheduled 5 days after the cervical conization due to the persistent, symptomatic ovarian cyst. After the patient was prepped and draped, an examination under anesthesia revealed a retroverted uterus that sounded to 7 cm. The cervix appeared friable. A uterine manipulator (Kronner uterine manipulator-injector, CooperSurgical, Trumbull, CT, USA) (Figure 1) was introduced after dilating the cervix to 8 mm with sequential Hegar dilators. Upon introduction of the laparoscope via the main trocar port, the balloon of the manipulator was visualized beneath the peritoneal membrane of the anterior cul-de-sac (Figure 2). A urologist was consulted, cystoscopy was performed and integrity of the urinary bladder was

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Accepted: May 2, 2006



**Figure 1.** The uterine manipulator (Kronner Manipujector®, uterine manipulator-injector; CooperSurgical, Trumbull, CT, USA).



**Figure 2.** The balloon of the manipulator can be seen beneath the peritoneal membrane of the anterior cul-de-sac (black arrow). The hematoma is seen below the balloon.

assured. The uterine manipulator was then removed and the resulting hematoma (Figure 2) was observed not to expand further. The cystectomy was completed without incident and the procedure was terminated.

On the 3<sup>rd</sup> postoperative day, a transvaginal sonogram demonstrated complete resolution of the hematoma. The patient was discharged from the hospital 2 days later and at the follow-up office visit she had no complaint and was asymptomatic.

## Discussion

Complications arising from the uterine manipulator are rare. In the past 10 years, more than 20,000 laparoscopic

surgical cases have been performed in our department with only a single cervical perforation occurring as reported herein.

It is distinctly possible, but not certain, that the complication occurred due to the proximity of the cervical conization. Due to the diathermic damage induced by electrical conization, inflammatory and proliferative phases of wound healing would be present 5 days later [2]. Wound healing after LEEP has been reported to take more than 4 weeks and in our case only 50% (12 of 24) of wounds were healed by the 4<sup>th</sup> week [3]. Further, electrical conization may induce cervical stenosis as a result of collapse and juxtaposition of exposed cervical stroma in the remaining cone bed [4]. As expected, mild resistance was encountered when dilating the endocervix on the 5<sup>th</sup> day after conization. Indeed, metal dilators have been reported to increase the risk of cervical perforation [1] and the dilator rather than the uterine manipulator may have actually caused the perforation. To decrease the risk of cervical perforation, intraoperative ultrasonography may be used to detect the metal dilator or manipulator as well as prevent uterine perforation when performing second trimester elective abortion. Intraoperative ultrasonography for second trimester abortion could reduce the rate of uterine perforation from 1.4% to 2% [5].

In conclusion, we have reported a rare complication involving a uterine manipulator. Such a complication may be avoided by sonographic guidance during insertion, especially in the stenotic cervix or during cervical healing.

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