

รายงานผู้ป่วย: ผู้ป่วยรายแรกที่ประสบความสำเร็จในการใช้ Khampitak Uterine Forceps เพื่อผ่าตัดมดลูกทางช่องคลอด โดยใช้กล้องส่องช่วย

โกวิท คำพิทักษ์¹, สิริวิชญ์ เตชะเจษฎารังสี²

¹ภาควิชาสูติศาสตร์และนรีเวชวิทยา คณะแพทยศาสตร์

²ภาควิชาวิศวกรรมเครื่องกล คณะวิศวกรรมศาสตร์ มหาวิทยาลัยขอนแก่น

The First Case: A Success of Using Khampitak Uterine Forceps in A Modified Laparoscopically Assisted Vaginal Hysterectomy.

Kovit Khampitak¹, Sirivit Taechajedcadarungri²

¹Department of Obstetrics and Gynecology, Faculty of Medicine

²Department of Mechanical Engineering, Faculty of Engineer
Khon Kaen University

วัตถุประสงค์: เพื่อประเมินผลและประเมินความปลอดภัยของเครื่องมือ Khampitak Uterine Forceps ในการผ่าตัดมดลูกทางช่องคลอด โดยใช้กล้องส่องช่วย

วิธีการศึกษา: ศึกษาผู้ป่วย 1 ราย ที่ได้รับการผ่าตัดมดลูกทางช่องคลอดโดยใช้กล้องส่องช่วยด้วยข้อบ่งชี้ขนาดมดลูกโตเท่ากับ หรือมากกว่าการตั้งครรภ์ 12 สัปดาห์

สถานที่: โรงพยาบาลศรีนครินทร์ คณะแพทยศาสตร์ มหาวิทยาลัยขอนแก่น

ผลการศึกษา: ขนาดมดลูกหลังการผ่าตัด 13 x 10 x 7 ซม.³ เวลาทั้งหมดที่ใช้สำหรับการผ่าตัด 210 นาที ระยะเวลาที่ใช้ Forceps จนกระทั่งดึงมดลูกออกจากช่องคลอด 35 นาที เสียเลือดประมาณ 130 มล. ผู้ป่วยกลับบ้านในวันที่ 5 หลังการผ่าตัด ผลข้างเคียงจากการผ่าตัด คือผู้ป่วยมีไข้ในวันที่ 2 หลังการผ่าตัด และใช้ยาไปในวันที่ 3 หลังการผ่าตัด

สรุป: Khampitak Uterine Forceps สามารถใช้ได้อย่างปลอดภัยในการผ่าตัดทางช่องคลอดโดยใช้กล้องส่องช่วย ด้วยข้อบ่งชี้คือเนื้องอกมดลูก โดยเฉพาะมดลูกที่มีขนาดโต และอาจจะช่วยให้แพทย์ตัดสินใจใช้การผ่าตัดวิธีนี้ในผู้ป่วยเหล่านี้มากขึ้น

คำสำคัญ: การผ่าตัดมดลูกทางช่องคลอด, uterine forceps

Objective: To evaluate effectiveness and safety of Khampitak Uterine Forceps in Modified Laparoscopically assisted Vaginal Hysterectomy (M-LAVH)

Design: One case of 12 week - size leiomyoma was operated by M-LAVH

Setting: Srinagarind Hospital, Faculty of Medicine, Khon Kaen University.

Results: The uterine size was 13 x 10 x 7 cm³. The total operative time was 210 minutes. The forceps procedure time (applying, sawing and uterine removing) was 35 minutes. Average blood loss was 130 cc. The patient was discharged in 5 days. Febrile morbidity was detected in the 2nd day after surgery and subsided in the 3rd day.

Conclusion: Using Khampitak Uterine Forceps in M-LAVH is a safe and effective method for the treatment of patient with large leiomyoma. Khampitak Uterine Forceps in M-LAVH is expected to benefit gynecologists to achieve the success of LAVH in large uterus.

Keyword: Vaginal Hysterectomy, Uterine forceps

BACKGROUND

Large variations of laparoscopic hysterectomy have been broadly discussed since it was firstly reported by Reich in 1989¹. Due to the fact that the most common indication for Total Abdominal Hysterectomy (TAH) is huge leiomyoma, in the coming of laparoscopically operative era, the laparoscopic procedure for leiomyoma has been developed by many physicians.²⁻⁵ In Srinagarind hospital since 1998, many patients with large leiomyoma (≥ 12 week- size) had been operated by Laparoscopically Assisted Vaginal Hysterectomy (LAVH). Two significant problems in the operative field were detected. The first issue was how to evaluate and clear the screen, especially, to identify the uterine vessels. The other concern was how to remove the huge uterus from the abdominal cavity.

Modified-LAVH (M-LAVH) and Khampitak uterine forceps were introduced in early 2006 by Department of Obstetrics and Gynecology, Khon Kaen University to resolve the problems of very large leiomyoma in LAVH. This research protocol was approved by the Ethics Faculty Ethnic Committee of Khon Kaen University.

In this article, we reported our first successful experience of M-LAVH with Khampitak Uterine Forceps.

Material and method

This research was carried out in June 2006 at Srinagarind hospital. The inclusion criteria were aged more than or equal to 18 years with a strong indication of TAH that cannot be replaced by Vaginal Hysterectomy (V-hyst). All of the participants would not have moderate to severe endometriosis or chronic pelvic inflammatory disease (PID). The patients were preoperatively counseled on the risks versus the benefits of this operation. We recorded the duration of forceps application till the uterine removal, total operative time, intra- and post-operative complications, duration of hospital stays, and actual uterine size.

Operative procedure

After general anesthesia with endotracheal intubations, the urinary bladder was emptied by intermittent catheter. After that, the upper lip of uterine cervix was held by a single tooth-tenaculum. Then the reusable uterine manipulator was placed through the cervix. Pneumo-peritoneum was performed via Verres needle by approximately 2 liters of CO₂. A four - puncture technique was

used, a 10 mm. reusable cannular was placed supraumbilically for laparoscopic camera. After that two 5 mm. cannulas were placed laterally in each lower quadrant and finally, one 5 mm. cannula was placed at 2 inches below the umbilicus.

Khampitak uterine screw (5 mm.) was inserted into the uterine fundus through the lower umbilical cannula and then pulled backward for the adequate, adnexal and round ligament, exposure. The bipolar-coagulating device was used to coagulate and transect the round ligaments and the infundibulopelvic ligaments (whenever the ovary was removed). Whenever the ovary was retained, the same technique was repeated to coagulate and transect the round ligaments, proximal fallopian tubes and ovarian ligaments. The laparoscopic part was finished at this stage. After that the surgeon ran downward to do the vaginal part.

At this stage, the urinary bladder was emptied again by intermittent catheter. After exposing the vagina by A-P retractors, we incised around the diluted-adrenaline injected cervix. Then the sponge with gauze was pushed into the anterior space between bladder and cervix up to peritoneal reflex. At this moment, the second operator was searching for the protruded of vesico-uterine flap causing by gauze and entering the vaginal space by incision at the bulging point.

In the posterior approach, the process continued until the cul-de-sac was identified. After that the uterosacral ligaments and cardinal ligaments were clamped, cut and sutured.

Khampitak Uterine forceps was applied in nearly the same way as we did in a child birth. The Rail Road technique was used to pass the suture material into the intra-forceps canal. Then, the suture material was displaced laterally to surround the board ligament and uterine vessel. By traction the suture material, Heaney clamps was clamped medially to them and the uterine vessel was being controlled. The same process was repeated with another size.

The surgical saw was placed through the intra-forceps canal by Rail Road technique and then, the uterus had been sawing into two parts. The first part of uterus was then removed through of the vaginal canal, and the uterine vessel stump was cut and sutured. The same process was repeated with another part. The vaginal stump was closed by delay absorbable suture the same as V-hyst. The urinary catheter was retained for 24 hours after surgery.

The bleeding was checked again via the laparoscopic monitor. After that, the abdominal wall was suture and the patient was closely observed in the post operative room.

Results

A middle age 38 years old woman, G2P2, without underlying disease, was recruited in this study. The indication for M-LAVH was leiomyoma. The total operative time was 210 minutes. The duration of forceps applying throughout the procedure to uterine removal was 35 minutes. The operative procedure was M-LAVH with right salpingo-oophorectomy. The operative finding was an enlarged uterus with multiple intramural leiomyoma: size 13x10x7 cm³, right ovary: size 5x4x3 cm³ with par ovarian cyst: size 1x1x1 cm³. Estimated blood loss by visual method was 130 cc The hematocrit was 36.7% before operation and 37% after operation.

The patient started the oral meal in 36 hours and started ambulation in 14 hours after the operation. There was febrile morbidity, temperature 38°C - 38.2 °C, in the 2nd day after surgery and it was spontaneously resolved without changing the antibiotic. Intraoperative Cefazolin started with 2 gm. intravenously and then, 1 gm of cefazolin continued every 6 hours for 4 days.

The patient was discharged from the hospital at day five after the surgery without any additional complications. One month after the surgery, the patient felt good with no complications. The histopathological report was intramural leiomyoma and corpus luteum in the right ovary.

Discussion

Laparoscopic hysterectomy was first reported by Reich et al in 1989.¹ In the classical LAVH, the procedure is divided into two parts, laparoscopic part and vaginal part. The laparoscopic procedure did not include uterine vessel ligation.⁶ The uterine morcellation was required in all patients who underwent LAVH in uterine leiomyoma larger than 6 cm in diameter or uterine weighing at least 450 gm.⁷ The Khampitak uterine forceps is designed for the large uterine liomyoma. In M-LAVH, surgical saw is applied through the intra-forceps canal and divides the uterus into 2 parts. This expects to make it easier and take shorter time in practice. In contrast to a very small piece of uterine tissue from the morcellation, the removing part of the uterus is close to normal sample for histo pathological

evaluation.

Laparoscopic Subtotal Hysterectomy (LSH) is one of various methods of Laparoscopic hysterectomy that was first described by Semm.⁸ However, we have usually removed cervix in nearly all cases of leiomyoma because of the high incidence of abnormal Pap smear and cervical carcinoma in Thailand.⁹

The preoperative ultrasound examination was done in every cases.⁷ The advantages are to exclude the presence of a large ovarian tumor or ovarian endometriosis and to assess the size and position of the leiomyoma that allows adequate planning and selecting the proper size of uterine forceps.

The Khampitak uterine screw was also designed for a traction of the huge uterus. It can provide high traction force¹⁰, making adequate operative screen.

After incision around cervix, we use sponge with gauze to separate the bladder from cervix and uterine corpus, as we have had three-case experience in bladder injuries caused by using the classical process of LAVH, putting sponge with gauze at anterior fornix and cutting the vaginal wall via the laparoscopic procedure.

The operative time was 210 minutes and that was longer than other studies (mean 120 minute)¹¹. This phenomenon can be explained as it was the first time of this modified technique. Operative time is expected to be shorter in the cases to come. However, the duration between forceps maneuver to uterine removal was only 35 minutes and that was quite short and could even be shorter in the next cases. In general, abdominal hysterectomy was performed significantly faster than laparoscopic hysterectomy (WMD 10.6 minutes, 95% CI 7.4 to 13.8 minutes) and vaginal hysterectomy also had a shorter operative time than laparoscopic hysterectomy (WMD 41.5 minutes, 95% CI 33.7 to 49.4 minutes).¹²

There was a little blood loss in this surgery, 130 cc. by visual estimation, and pre- and post-operative hematocrits were not changed. Bleeding could be a result of longer the operative time. In order to prevent bleeding, we usually cut the fallopian tube and round ligament at least 1 cm. apart from the uterine surface. Although the ovarian proper ligament is very short and so close to uterine surface, we prefer cauterizing it with a bipolar and cutting with scissors to the ultrasonic blade that is less potency. In LAVH, the blood loss is usually less than total abdominal hysterectomy (TAH) and vaginal hysterectomy

(V-hyst) except for the huge leiomyoma. 4,7,12,13 However this case shows a satisfying outcome for intraoperative blood loss.

Although severe pelvic adhesions secondary to endometriosis and uterine leiomyoma larger than 13 cm. were the contraindications to V-hyst and LAVH.⁷ By the new method, we expect to operate uterine fibroids in any size, except for the adhesion.

The hospital stays for LAVH was generally shorter than V-hyst or TAH.^{6,13} In this study, we observed the patient for 4 days after the surgery for any other complications. A short term complication for this surgery was febrile morbidity that could be resolved within 1 day. However, the urinary tract injury, increased incidence in LAVH 14, would have to be closely observed in the following cases.

In conclusion, the uterine leiomyoma can be effectively and safely operated by using MñLAVH with Khampitak uterine forceps. The operative time are expected to be improved when the surgeon gained more skill. So as to the other complications that would have to be closely observed We would like to distribute the results of the study so that the procedure can be re-studied and re-evaluated by gynecological laparoscopist for further recommendation.

Acknowledgement

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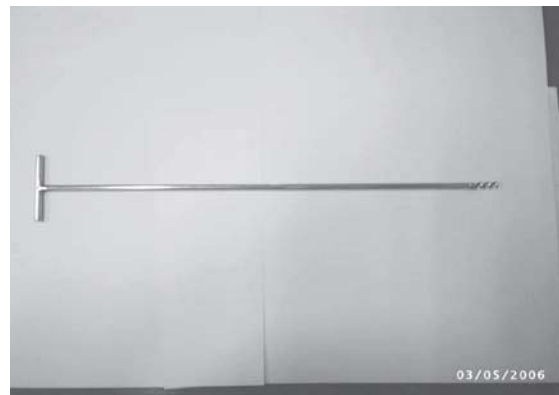
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1. ภาพเครื่องมือ



Khampitak uterine forceps

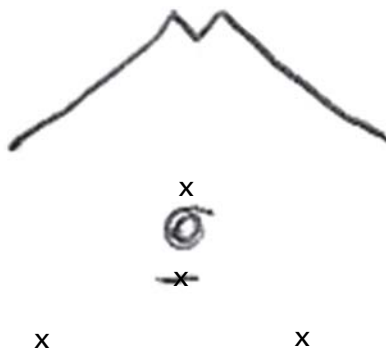


Khampitak uterine screw

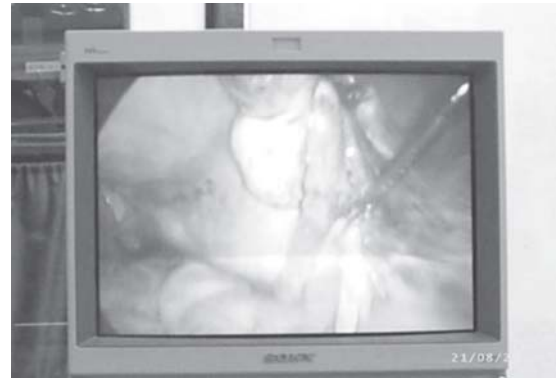
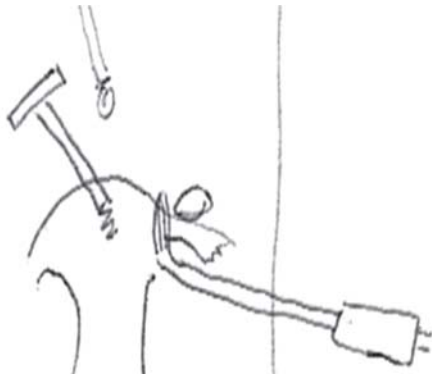
2. ภาพรายละเอียดการผ่าตัด (หมายเหตุ การผ่าตัดนี้พัฒนาเพิ่มขึ้นจากการผ่าตัดใน 1st Case Report)

1. ขั้นตอนการผ่าตัดโดยการส่องกล้อง

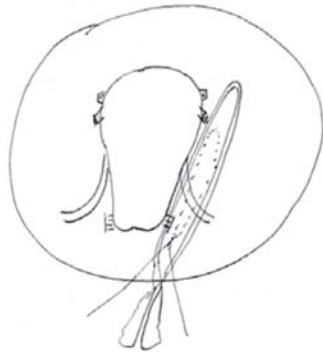
1.1 เจาะรูที่ หน้าท้อง 4 รู



1.2 ใช้ screw จับยอดมดลูกพร้อม ใช้อุปกรณ์จี้-ตัด ปีกมดลูก



1.3 ปีกมดลูกที่ถูกตัดแล้ว

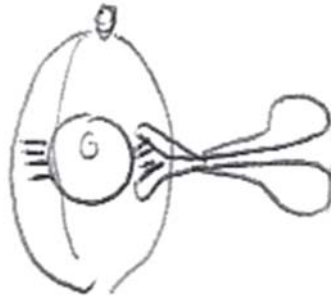


2. ขั้นตอนการผ่าตัดทางช่องคลอด

2.1 ความรอบปากช่องคลอด พร้อมใช้ ก้อนดันแยกกระเพาะปัสสาวะ และมดลูก



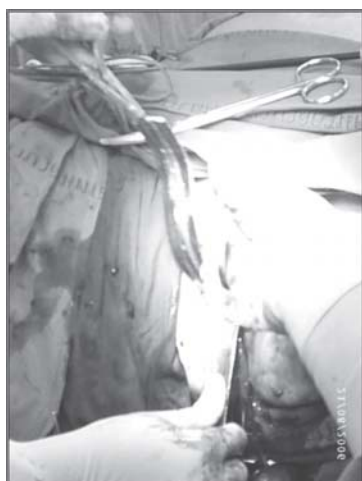
2.2 หนีบ ตัด และ ผูก Uterosacral และ Cardinal ligament



3. ขั้นตอนการใส่คีมคีมมดลูก
3.1 การใส่ Forceps หน้า



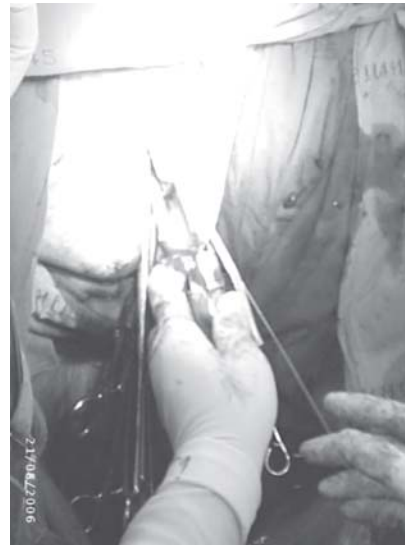
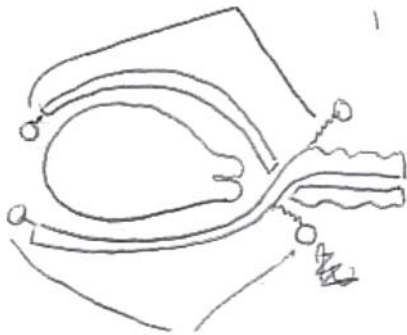
3.2 การใส่ Forceps หลัง



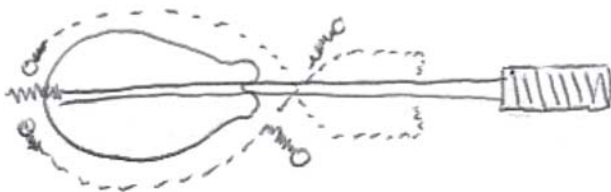
3.3 ภาพในช่องท้องเมื่อ Forceps ประคบกันสมบูรณ์



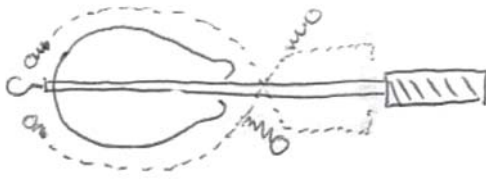
4. ขั้นตอนการตัดมดลูกภายหลังจากใช้ คีมคีบมดลูก (uterine forceps) แล้วมีดังนี้
 - 4.1 คีมคีบมดลูกพร้อมใบเลื่อย สอดพร้อมในตำแหน่งคีบมดลูก บน-ล่าง



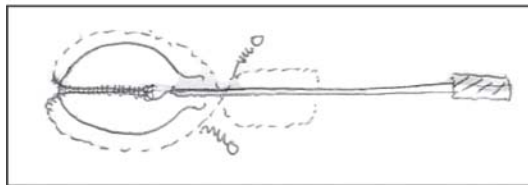
- 4.2 ใช้อุปกรณ์ เจาะมดลูกเจาะผ่านผนังมดลูก



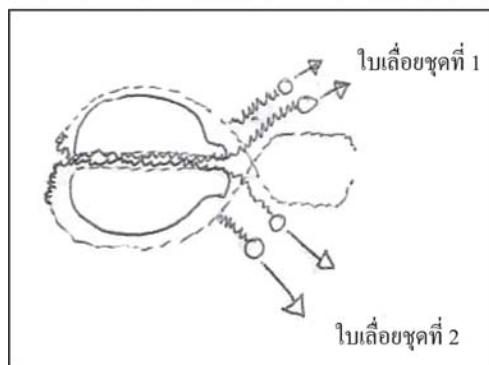
4.3 นำอุปกรณ์เจาะมดลูกออก แล้วนำตะขอเกี่ยวไบลี้อยู่เข้าไปแทนที่



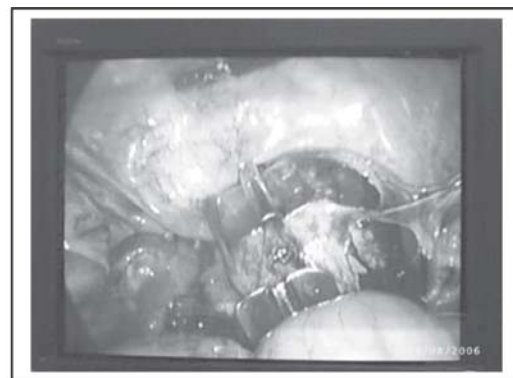
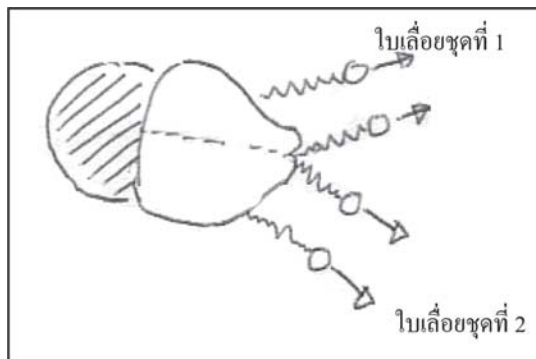
4.4 ใช้ตะขอเกี่ยวห่วงที่อยู่ปลายไบลี้อย่าง 2 ดึงย้อนออกมาทางช่องคลอด



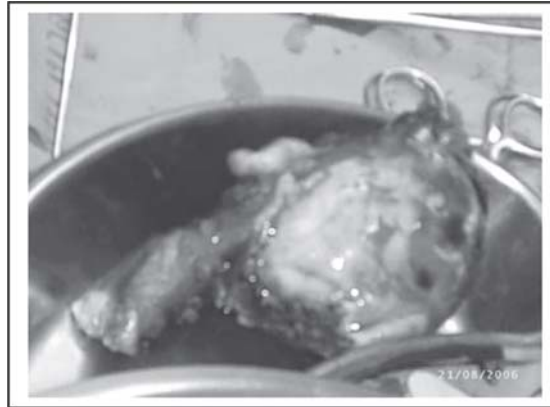
4.5 ทำการเลื่อยมดลูกให้ขาดเป็น 2 ชิ้น โดยเลื่อยไบลี้อยู่ที่ละชุด



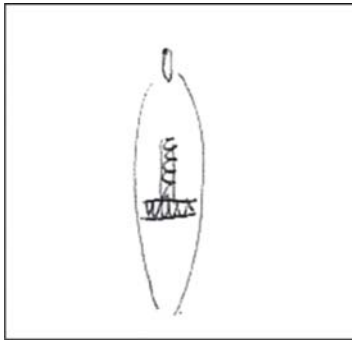
4.6 มดลูกที่แบ่งเป็น 2 ซีก โดยไบลี้อยู่ 2 ชุด



5. การนำมดลูกออก



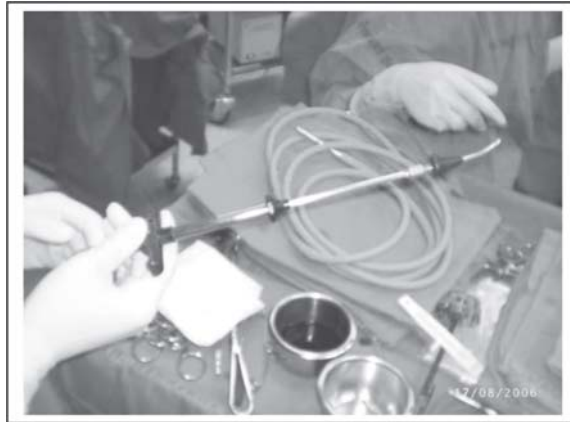
6. ฝีเย็บปิดยอดช่องคลอด



7. ภาพผู้ป่วยหลังผ่าตัด



3. Uterine manipulator คือเครื่องมือที่ช่วยดันมดลูกทางช่องคลอด



4. AP retractors ใช้สำหรับถ่างขยายช่องคลอดให้ง่ายต่อการผ่าตัด



5. Rail Road technique ทำโดยการใส่เส้นเอ็นเข้าไปตามช่องของ forceps ก่อนเพราะเส้นเอ็นมีความอ่อนนุ่มมากกว่า จากนั้นจึงผูกเส้นเอ็นกับใบเลื่อย เมื่อทำการดึงเส้นเอ็นใบเลื่อยจะค่อยๆ เลื่อนเข้าไปในช่องของ forceps แทน

6-7. การให้ Antibiotic prophylaxis สำหรับการผ่าตัดทางช่องคลอด มีผู้แนะนำว่าต้องให้อย่างน้อย 3 วัน (เอกสารอ้างอิงแนบท้าย) cefazolin loading dose คือ 2 กรัม และเป็นที่ทราบทั่วกัน จึงไม่ได้กล่าวไว้ในวิจัย

8. High incidence of abnormal pap (เอกสารอ้างอิงแนบท้าย)