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Laparoscopic supracervical hysterectomy using the McCartney transvaginal tube

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Abstract Laparoscopic supracervical hysterectomy is an efficient alternative to laparoscopic-assisted vaginal hysterectomy or total laparoscopic hysterectomy. This report describes a laparoscopic supracervical hysterectomy using the McCartney transvaginal tube. This technique allows safe extraction of the uterine body, closure of the vault, and inspection of the operating field while maintaining the pneumoperitoneum.

Keywords Laparoscopic hysterectomy · Supracervical hysterectomy · McCartney tube

Introduction

Since the first laparoscopic hysterectomy was described in 1989 [1], there has been a natural evolution of this procedure. Many different techniques have been described, with the aim of lower complication rates and shorter operating times.

A supracervical hysterectomy has many potential advantages over a total hysterectomy by the abdominal or vaginal route. The major advantages appear to be that patients experience a quicker recovery and lower complication rates than those who undergo total abdominal hysterectomy [2]. Compared with laparoscopic-assisted vaginal hysterectomy (LAVH), supracervical hysterectomy results in a shorter operating time and less blood loss as well as a quicker return to normal activities [3]. There also seems to be less direct ureteric and bladder injury, especially if there has been previous surgery such as caesarean section.

Furthermore, because there is less interference with the bladder's nerve supply, there should also be fewer de novo cases of vesicourethral dysfunction [4]. During a total hysterectomy, the vaginal vault is often supported with the

uterosacral ligaments. This approach ignores the role of other pelvic support mechanisms. A supracervical hysterectomy keeps these structures intact [5].

There is little evidence to support the importance of the cervix in future sexual function, although some women undoubtedly wish their cervix to be retained if there is no clinical indication to remove an otherwise normal structure [6], especially in view of advances in early diagnosis of cervical disease and the low risk of cervical cancer in the stump, which is estimated at only 0.11% in those women with previous negative cervical cytology.

A laparoscopic supracervical hysterectomy is a minimally invasive procedure that has a shorter learning curve than other procedures and reduces the rate of abdominal hysterectomies. It maintains the advantages of both the supracervical and vaginal procedures, with the vaginal support structures left intact and with small abdominal port site wounds [7].

This paper describes the technique used to perform a total laparoscopic supracervical hysterectomy using the McCartney transvaginal tube [8]. The McCartney tube is a disposable silicone tube with a diameter of 45 mm or 35 mm. It is inserted transvaginally, with its vaginal end open and the other end covered by a cap containing 5- and 10-mm valves. The tube prevents loss of carbon dioxide pneumoperitoneum when the vagina is opened and allows the total specimen to be removed through the tube [9].

Case report

A 40-year-old woman was referred to us by her general practitioner with a 2-year history of increasing menorrhagia and anaemia. Medical management with mefenamic acid, tranexamic acid, and the Mirena coil had been unsuccessful. She had had three vaginal deliveries. She had a negative and up-to-date smear history. All the remaining treatment options available were discussed with her, and she opted for a laparoscopic subtotal hysterectomy.

Admission took place on the day of surgery. A Foley catheter and a Pelosi uterine manipulator were inserted at

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the start of the operation. Pneumoperitoneum was attained via intraumbilical Verres insufflation. A four-port technique was used. A 10-mm trocar was inserted intraumbilically, and 5-mm trochars were inserted suprapubically in the midline as well as lateral to each rectus muscle. The course of the ureters was identified laparoscopically prior to surgery, and special attention was paid throughout the surgery. For laparoscopic dissection, bipolar unmodulated current at 40 W was used. Dissection followed the same steps as for an LAVH procedure to the level of the uterine arteries, which were identified, ligated using bipolar diathermy, and divided prior to subtotal hysterectomy. The uterine body was separated from the cervix with unipolar scissors. A scissor tip for cautery with monopolar diathermy was used for additional haemostasis and treatment to the endocervical canal, making this a type ST III B procedure following the Munro and Parker classification system for laparoscopically directed subtotal hysterectomy [10].

A posterior colpotomy was performed following the insertion of the McCartney tube per vaginum, using monopolar diathermy to make a transverse incision over the posterior lip of the McCartney tube. This allowed retrieval of the uterine body and inspection of the operative field while maintaining the pneumoperitoneum. This is a major advantage over other techniques. The posterior colpotomy was then sutured laparoscopically in a continuous running suture and tied vaginally. The estimated blood loss was minimal, and the operating time was 2 h.

The patient's postoperative recovery was uneventful. She required virtually no painkillers and was discharged on the 2nd postoperative day. She was seen in the outpatient department a week later and had remained well. She was discharged following a further visit a month later as she was well and asymptomatic.

Discussion

The successful performance of this procedure and the patient's uneventful recovery, including early hospital discharge and rapid return to normal activity the following week (although intercourse was deferred for 4 weeks because of the posterior colpotomy scar), suggest that this technique can be recommended to colleagues. Various laparoscopic supracervical techniques have been described to allow removal of the uterine body. Morcellation is either

time-consuming or expensive, depending on whether a manual or a mechanical technique is employed. Enlargement of the port sites negates the advantage of a laparoscopic procedure. Morcellation also requires preoperative endometrial assessment as the uterine body is removed in a piecemeal fashion. Posterior colpotomy to allow removal of the uterine body leads to loss of the pneumoperitoneum. But the use of the McCartney tube inserted transvaginally allows the pneumoperitoneum to be maintained and therefore offers a very safe and effective method for removing and retrieving the uterine body, suturing the posterior colpotomy, and inspecting the operative field [11, 12].

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