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LAVH after low anterior resection

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Abstract Two patients with a history of low anterior resection of the rectum undergoing laparoscopic-assisted vaginal hysterectomy (LAVH) were reported. The first patient had a low anterior resection with transverse colostomy for carcinoma of the rectum 8 cm from the anal verge in 1999. The colostomy was closed in 2000. LAVH and bilateral salpingo-oophorectomy were performed in 2002 for ovarian cyst. The left upper quadrant was used for entry of the primary port. Adhesiolysis for extensive peritoneal adhesion was performed, but the hysterectomy was uneventful. The second patient had a low anterior resection for carcinoma of the rectum 10 cm from the anal verge in 1997. LAVH was performed in 2003 for adenomyosis of the uterus. The recovery of both patients was uneventful. With attention to preparation and technique, LAVH can be performed safely in patients after anterior resection.

Keywords LAVH · CA rectum · Low anterior resection

Introduction

The best approach to perform a hysterectomy is controversial. It is generally agreed that the least invasive approach should be chosen. In patients with a history of low anterior resection for carcinoma of the rectum, adhesions of the bowel and omentum to the anterior abdominal wall can be expected. There may also be adhesions in the pelvis that may make the laparoscopic approach not fea-

sible. A Medline search using the key words ‘low anterior resection’ and ‘laparoscopic hysterectomy’ or ‘LAVH’ yielded no reports on laparoscopic hysterectomy performed on patients who had undergone a low anterior resection. We reported our experience of laparoscopic-assisted vaginal hysterectomy in two patients after low anterior resection. The preparation of patients and the technique employed were discussed.

Case reports

Patient no. 1

A 41-year-old patient was first seen by us in 2001 for assessment of an adnexal cyst. She had a history of rectal cancer from 8–15 cm above the anal verge diagnosed in 1999. Low anterior resection with total mesorectal excision and defunctioning loop transverse colostomy were performed in August 1999. Reassessment sigmoidoscopy showed an anastomotic stricture, and elective laparotomy with anastomotic stricture dilatation through colotomy proximal to the stricture was performed in July 2000. The transverse colostomy was closed in October 2000. She was subsequently confirmed to suffer from hereditary non-polyposis colorectal cancer syndrome with germline mutation in the hMSH2 gene. Physical examination revealed a midline scar extending to the umbilicus. Pelvic sonogram showed that the cyst was about 3 cm in diameter. Subsequent follow-up sonogram showed that the cyst was increasing in size and measured 9.4×2.8×3.5 cm. To perform hysterectomy and bilateral salpingo-oophorectomy was decided. The options of hysterectomy were discussed, and the patient agreed to the use of the laparoscopic approach. Bowel preparation with Fleet phospho-soda was carried out the preceding day, and prophylactic antibiotics were given at the induction of anesthesia. The left upper quadrant approach was carried out for entry of the primary trocar. Extensive adhesions between the omentum, small bowel and anterior abdominal wall were found and lysed. An umbilical port was inserted under direct visual control after lysis of the adhesions. The uterus was relatively free from adhesions, and the pouch of Douglas was normal. Both ovaries were plastered to the pelvic sidewall, and the left ovary was hidden inside a peritoneal loculation that corresponded to the cystic lesion detected on pelvic sonography. The broad ligaments were opened, and both round ligaments were dessicated and cut. The infundibulopelvic ligaments on both sides were dessicated and cut. The anterior vesico-uterine peritoneal fold was cut and the bladder freed from the uterus. The posterior leaflets of the broad ligaments were cut from the uterus. The rest of the procedure was completed vaginally. The whole procedure lasted 3 h and 35 min, and the

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estimated blood loss was 300 ml. A drain was placed in the pouch of Douglas in view of oozing from the raw area. The uterus weighed 140 g. Postoperative recovery was uneventful, and the patient was discharged from the hospital 3 days after the operation. She was seen again 6 weeks after the procedure, and the patient was well. Histological examination of the resected specimen revealed a normal uterus and appendages.

Patient no. 2

A 44-year-old patient was referred to our clinic in 2002 because of menorrhagia. Investigations by a gynecologist showed a 5-cm fibroid, and her hemoglobin level dropped to 6.1 g/dl. She had a history of carcinoma of the rectum 10 cm from the anal verge, and a low anterior resection with a total mesorectal excision was performed in 1997. A physical examination revealed a midline scar extending to the umbilicus. A similar approach was taken in the management of this patient. A laparoscopic-assisted vaginal hysterectomy was offered to the patient. During the operation, there were omental adhesions to the anterior abdominal wall. The abdomen was entered with the left upper quadrant approach, and adhesiolysis was performed. Again, the uterus was relatively free from adhesions, although there was some adhesion between the bowel and uterus, mainly between the rectum and the cervix. The uterus was irregularly enlarged to 8 weeks gravid size, with a 5-cm bulge at the anteroposterior region. The broad ligaments were opened, and both round ligaments were dessicated and cut. The ovarian ligaments and fallopian tubes were dessicated and cut. The anterior vesico-uterine peritoneal fold was cut, and the bladder was freed from the uterus. The posterior leaflets of the broad ligaments were cut from the uterus. The adhesion between the rectum and cervix was lysed. The rest of the procedure was completed vaginally. The uterus was removed after morcellation. The rectum was confirmed to be intact at the end of the procedure by insufflating air into the rectum after the pelvis was covered with irrigation fluid. A vaginal drain was also inserted. The whole procedure lasted 2 h 14 min, and the estimated blood loss was 400 ml. The specimen weighed 277 g, and histological examination revealed adenomyosis. The recovery was uneventful, and the patient was discharged from the hospital after 2 days.

Discussion

The successful performance of laparoscopic-assisted vaginal hysterectomy and the uneventful recovery of these two patients illustrate that the laparoscopic approach is feasible in patients following a low anterior resection. The finding of relatively fewer adhesions in the pelvis is rather unexpected as the original lesion in the gastrointestinal tract was in the pelvis. Nevertheless, the occurrence of adhesions between the rectum and the cervix in the second patient suggested that the laparoscopic approach is safer than the vaginal approach alone.

Proper preoperative counseling of patients is important. Although in both of our patients, the operation and

recovery were uneventful, it is of utmost importance to keep patients informed of the potential risks of such an approach. The risk of bowel injury is probably much more increased than a generally quoted rate of 0.1–1% during hysterectomy [1]. Bowel preparation should be carried out and prophylactic antibiotics should be given before the procedure. At the end of the procedure, the integrity of the rectum can be tested by insufflating air into the rectum if the dissection of the latter from the cervix is required [2].

In view of the severe adhesions to the anterior abdominal wall in both our patients, a safe approach to insert the primary trocar is an important prerequisite. We used and recommended the left upper quadrant approach [3]. We believe this is safer than the more conventional closed technique. It is probably also safer than the open technique, as there is no evidence to support the effectiveness of open laparoscopy in preventing bowel injury [4]. A lot of time was spent on adhesiolysis and, as a result, the duration of the operation was 3 h 35 min and 2 h 14 min, respectively. This was apparently longer than the reported average of 124 min in a recently reported nationwide series [5]. The recovery of the patients was uneventful, and they were discharged within 2–3 days after the operation.

In conclusion, we believe that it is feasible to perform a laparoscopic-assisted vaginal hysterectomy in patients who have undergone a low anterior resection. With proper attention to preparation and technique, we propose that this should be the approach to performing a hysterectomy in this group of patients.

References

1. Hill D (1997) Complications of hysterectomy. *Baillieres Clin Obstet Gynaecol* 11:181–197
2. Pisters LL, Wajzman Z (1992) A simple test for the detection of intraoperative rectal injury in major urological pelvic surgery. *J Urol* 148:354
3. Lam KW, Pun TC (2002) Left upper quadrant approach in gynaecologic laparoscopic surgery with reusable instrument. *J Am Assoc Laparosc* 9:199–203
4. Garry R (1999) Towards evidence-based laparoscopic entry techniques: clinical problems and dilemmas. *Gynaecol Endocrinol* 8:315–326
5. Makinen J, Johansson J, Tomas C, et al (2001) Morbidity of 10,110 hysterectomies by type of approach. *Hum Reprod* 16:1473–1478