A Modified Posterior Pelvic Exenteration Technique in a Woman: (A Simplified Method With Using Transvaginal Way)

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Abstract We represent a simplified surgical method for posterior pelvic exenteration in a woman by using the transvaginal way in addition to classic abdominal approach. A modified posterior pelvic exenteration technique was performed in a patient with bulky pelvic tumor. The transvaginal way was used for the deep perineal dissection when the abdominal dissection was arrested. An ultralow coloanal anastomosis was completed by using the transvaginal way. After the recovery period, the patient was discharged from hospital without any complication. The transvaginal access should be reminded in the circumstances of the abdominal dissection arrested in posterior pelvic exenteration operations in women.

Keywords Posterior pelvic exenteration · Transvaginal route · Deep pelvic dissection

Introduction

The technique of the total pelvic exenteration was firstly described by Alexander Brunswig in 1948 in a woman who had locally advanced cervix cancer [1]. After 1 year, he performed the same technique in a man who has locally advanced sigmoid cancer [2]. The pelvic carcinomas that are locally invasive but without disseminated can be treated by

the pelvic exenteration technique. All the organs in the pelvic cavity are removed in the technique of the total pelvic exenteration. Urinary and fecal continence is provided by ostomies in the classic operation technique. After the first operation, many kinds of the modifications of the technique of the pelvic exenteration are described.

The main types of the modifications are anterior and posterior pelvic exenterations [3]. The main aims of the modifications are urinary and anal continence. The restoration of the bowel continuity and fecal continence is main objectives in modified posterior pelvic exenteration operations.

We used the transvaginal way as a part of the posterior pelvic exenteration for the simplification of the arrested pelvic dissection and coloanal anastomosis. The transvaginal route has been used for low-level coloanal anastomosis in low rectal cancer surgery with good physiologic and oncologic results [4, 5]. We adopted the transvaginal route to technique of the posterior pelvic exenteration operation in case of the abdominal dissection cannot be advanced.

Methods

After physical examination of a 51-year-old woman with complaints of abdominal pain, a suprapubic, immobile, and rough mass was palpated. Rectal examination revealed the extraluminal mass at the anterior wall of the rectum, which was started approximately 5 cm from anal verge. The mild-degree anemia and elevated Ca 125 levels were found in the laboratory blood tests. A bulky pelvic mass filling the pelvic cavity was revealed in the abdominopelvic MR (Fig. 1).

After the radiologic imaginations, we decided to make rectosigmoidoscopic examination and extraluminal obstruction was displayed by the endoscopy. Then multiple biopsies were taken from cervix and endometrium. The histopathologic

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Fig. 1 Sagittal view of the pelvis on abdominal MR shows that the pelvic cavity is filled by conglomerated mass

examination of the cervix and endometrium was negative for the purpose of the malignancy.

The patient was taken to the operation table in Lloyd-Davis gynecologic position. Abdominal access is provided by median incision. A bulky conglomerate pelvic mass which encompassed the rectosigmoid junction, ovary and uterus was seen (Fig. 2). The sigmoid colon was mobilized. The posterior dissection line was carried onto

Fig. 2 Abdominal access shows that the rectosigmoid colon is encompassed by a tremendous pelvic mass

Fig. 3 A postoperative view of the pelvic mass with a part of the rectosigmoid colon

presacral space. The anterior dissection line was carried on between the bladder and the conglomerate pelvic mass toward to column of the uterus. When the abdominal phase of the operation was getting hard to carry on because of the bulkiness of the mass in pelvic and its deep pelvic localization, we decided to continue by the transvaginal way and the transvaginal phase of the operation was started. The posterior vaginal wall was opened with vertical incision. After the connective tissue between the vagina and the rectum was dissected, distal rectum was mobilized and transected transversely at the level of the inferior border of the pelvic mass.

Fig. 4 Transvaginal coloanal anastomosis after the posterior pelvic exenteration

The transvaginal dissection was carried onto posterior presacral space. After the abdominal and transvaginal posterior dissection lines in presacral space were joined, pelvic mass was mobilized and it was pulled toward the back of the pelvis. The anterior dissection line between the pelvic mass and the urinary bladder was revealed by the retrograd mobilization by conglomerated mass. The anterior dissection line was advanced anteriorly to level of the middle part of the vagina. Uterine vessels were ligated in the lateral aspect of the pelvic mass. After the abdominal transection of the sigmoid colon in a suitable level, the transection of the rectum was completed by using transvaginal way. The pelvic conglomerate was extracted with the parts of the recto-sigmoid colon and proximal part of the vagina (Fig. 3). Coloanal anastomosis was completed by the transvaginal way (Fig. 4). Appendectomy, omentectomy, and lymphatic dissections of the para-aortic and pelvic ganglia were done as routine operative procedures. A pelvic drain was placed. Abdominal and vaginal wounds were closed.

Results

The patient was discharged from hospital without complication. A poor differentiated serous carcinoma from ovary which locally invaded the uterus and rectum was detected in pathologic examination. After a healing period, the patient was given the oncologic therapy.

Conclusions

The pelvic exenteration operations are radical surgical procedures. These procedures are used in patients who have locally invasive, recurrence, or irradiated pelvic carcinoma.

Abdominal dissection can be arrested due to the size of the tumor or deep pelvic localization. We represent a modified technique of the posterior pelvic exenteration by using transvaginal way in the woman to move forward of arrested abdominal dissection. The transvaginal route can provide a different access to facilitate the progress of the operation when the abdominal access cannot be advanced by the abdominal pelvic dissection. The fecal continence is the one of the most important aims in the techniques of the modified posterior pelvic exenteration. As the transvaginal route can provide the exposure into supralelevator and sublevator pelvic cavity, low-level coloanal anastomosis can be performed by using the transvaginal way in women.

The transvaginal way is a simple and effective way in pelvic exenteration and we think that it should be kept in mind especially when the abdominal dissection falls in trouble.

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