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Journal of Interdisciplinary Medicine

CASE PRESENTATION

GYNECOLOGY // SURGERY

Total Infralevatorian Exenteration with Vulvectomy as Salvage Therapy in a Recurrent Irradiated Cervical Cancer with Pelvic Sidewall Involvement

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ARTICLE HISTORY

Received: 15 December, 2016
Accepted: 30 December, 2016

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ABSTRACT

Despite the available effective screening techniques, cervical cancer is the most common genital malignancy in Romania. In patients with isolated pelvic recurrence after radiotherapy, exenteration represents the only chance for curative treatment. We present the case of a 45-year-old patient with a massive pelvic tumour causing intensive, poorly controlled vaginal bleeding, bilateral hydronephrosis and chronic renal failure. She underwent total infralevatorian exenteration with vulvectomy. Postoperative recovery was uneventful, and she presented a good evolution in the two months following surgery. We consider pelvic exenteration as the last treatment option to cure irradiated pelvic tumour recurrences.

Keywords: recurrence, cervical cancer, total exenteration, pelvic wall, vulvectomy

CASE REPORT

We present the case of a 45-year-old patient who was diagnosed with stage IIB squamous cervical carcinoma, complaining of atypical vaginal bleeding. She was referred to chemo-radiotherapy with curative intent. After five years she relapsed, complaining of lower abdominal pain and vaginal bleeding. Transrectal ultrasound (Figure 1) and magnetic resonance scan revealed a tumor of 8 × 4 cm, invading the parametrium bilaterally, the urinary bladder, the rectum, vagina, distal urethra, and the right internal iliac vessels. No distant metastases were described. The patient developed bilateral hydronephrosis with a non-functional right kidney. In September 2016, the patient had been admitted for intensive vaginal bleeding in order to attempt hemostasis and for blood transfusions. The patient was admitted to the Ist Clinic of Obstetrics and Gynecology of Tîrgu Mureș in October 2016, presenting moderate vaginal bleeding, hypoalbuminemia, chronic renal failure, and metabolic acidosis. Preoperatively she

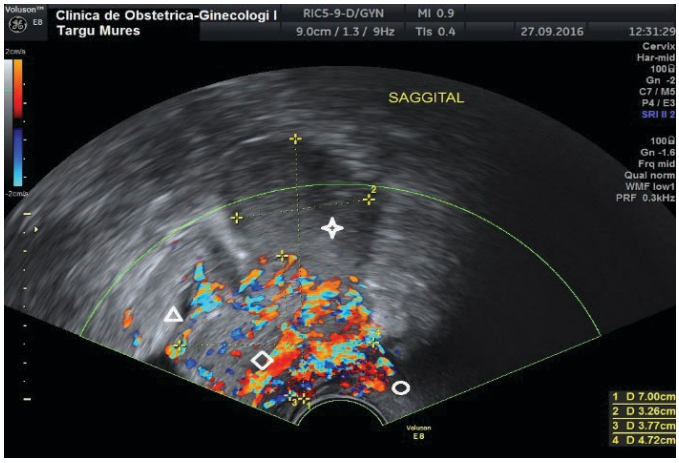

FIGURE 1. Trans-rectal sagital ultrasound scan. ✧ – uterine body; ◇ – tumor; △ – urinary bladder with tumor invasion; ○ – rectum with tumor invasion

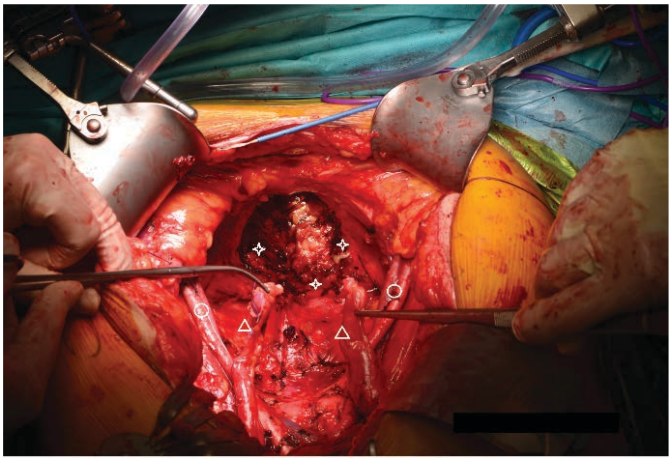

FIGURE 2. Intraoperative cranial view after completion of exenterative phase. △ – ureter; ○ – external iliac vessels; ✧ – sectioned edge of levator ani muscle

received 4 units of packed red blood cells, 3 units of fresh frozen plasma, parenteral saline perfusions, diuretics and 20% human albumin. A week after admission she underwent a total infralevatorian exenteration with vulvectomy and definitive left colostomy with curative intent. Due to the right pelvic sidewall invasion, a lateral extended right parametrectomy was performed, with partial levator ani muscle excision (Figure 2). The urinary conduit was made using the terminal sigmoid colon (Figure 3). A single implantation of the left ureter was performed, considering that the right kidney was non-functional. To prevent empty pelvic syndrome, an omental "J flap" was confected to cover the pelvic floor. The postoperative period was uneventful, the patient spent four days in the intensive care unit receiving prophylactic antibiotic therapy (piperacillinum-tazobactamum and Metronidazol intravenously), Fraxiparine 3800 IU/0.4 mL/day subcutaneously, parenteral hydro-saline and nutrient supplementation. Opioid pain killers were switched to non-steroidal antiinflamatory therapy four days after surgery. The patient was discharged on the 10th postoperative day, with complete remission of renal failure and mild anaemia. The histological examination showed tumor cell infiltration of the bladder, rectum, vagina and parametrium, with negative surgical margins except at the level of the left greater labia. At six weeks after surgery, the patient presented a favorable evolution and had recovered from surgery.

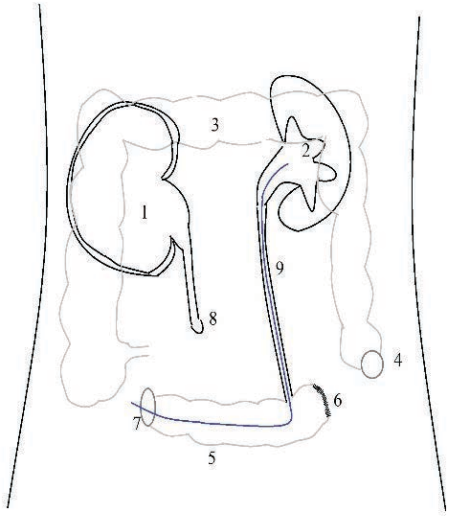

FIGURE 3. Reconstructive phase of the exenteration. 1 – non-functioning right kidney; 2 – left kidney; 3 – colon; 4 – colostomy; 5 – urinary pouch confectioned from the sigmoid colon; 6 – proximal end of the pouch sutured with a GIA stapler; 7 – urostomy; 8 – right ureter ligated; 9 – left ureter with an endoureteral catheter.

All the procedures that were performed were in line with the general procedures agreed by the hospital. The patient agreed to the publication of her data, and the institution where the patient had been admitted approved the publication of the case.

DISCUSSIONS

Cervical cancer is the most common gynecological malignant tumor in Romania, with the highest incidence in the European Union.[1] If it is diagnosed and treated in early stages, it has a good prognosis. However, in large tumors and in cases with lymphatic metastasis, it has a higher relapse and mortality rate. In stage III, the 5-year survival rate is 30–50%, while in stage IV it is only 5–15%.[2] The recurrence rate at five years for surgically treated patients is 13% in stage IB1 and 22% in stage IB2, while for patients

treated with radiotherapy, the recurrence rate is 26% in stage IB1 and 37% in stage IB2.[3]

The management of cases with relapse depends on prior history and the site of recurrence. Non-irradiated patients or distant recurrences should receive tumor-directed radiotherapy associated with platinum-based chemotherapy. In case of central disease with earlier radiotherapy, pelvic exenteration, or in selected small tumours (<2 cm) radical hysterectomy or brachytherapy is indicated. For non-central pelvic disease, resection and intraoperative radiotherapy is indicated.[4] Advanced stages of cervical cancer with urinary or gastrointestinal fistulas should be selected for exenteration as primary treatment, because radiotherapy generally worsens the healing of fistulas.

Contraindications for pelvic exenteration include peritoneal metastasis, non-resectable distant metastasis, invasion of lumbosacral plexus and sciatic nerves, infiltration of the external or common iliac vessels, and debilitating medical comorbidities.[5]

Modern imaging techniques are mandatory to exclude the conditions that contraindicate exenteration. PET/CT's ability to demonstrate the recurrence of the disease in patients with gynecologic malignancies has been shown to be superior to that of other conventional imaging modalities.[6] Positron emission tomography presents a high sensitivity and specificity in detecting paraaortic lymph node metastases.[7] Magnetic resonance and trans-rectal ultrasound has good accuracy describing local and regional invasion.[8]

The exenteration was first defined by Brunschwig in 1948.[9] It can be classified into anterior, posterior or total exenteration, based on the involvement of the urinary bladder, the rectum or both in surgery. In relation to the levator ani muscle, it can be classified into supralevatorian, infralevatorian and infralevatorian with vulvectomy.[10]

In a case series of 36 patients with cancer involving the pelvic sidewall, Hoeckel *et al.* reported a 46% probability of 5-year survival after lateral extended parametrectomy, patients otherwise being referred to palliation.[5] Ferenschild *et al.* also reported a 45% 5-year survival for recurrent cervical cancer and 66% for advanced rectal cancer after pelvic exenteration. The survival rates at 5 years for primary advanced rectal malignancy, recurrent rectal tumours and tumors of the uterine cervix were 66%, 8% and 45%, respectivley.[11] Wydra *et al.* reported a mortality rate of 7%, of which intraoperative mortality accounted for 3.5%.[12] Major postoperative complications include bleeding, infection, wound dehiscence, and anastomotic leak in the intestines, urinary pouch or ureteral sites.[13]

CONCLUSION

Despite high perioperative morbidity and mortality rates, pelvic exenteration offers the only chance for long-term survival in cases with pelvic recurrences of irradiated cervical cancers.

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