

Case Report

Total Pelvic Exenteration for Locally Invasive Cervical Cancer with Vesico-Vaginal Fistula

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REZUMAT

Exenterație pelvină totală pentru neoplasm de col uterin invaziv loco-regional cu fistulă vezico-vaginală

Deși exenterația pelvină a fost considerată mult timp ca ultimă opțiune terapeutică pentru neoplasmul persistent sau recurent de col uterin, în ultima perioadă această procedură a devenit mai degrabă o intervenție radicală cu rezultate bune în ceea ce privește evoluția imediată postoperatorie și supraviețuirea globală. În cazurile ce prezintă tumori maligne invazive locoregional sau cu fistule asociate, exenterația pelvină rămâne singura opțiune potențial curativă. Prezentăm cazul unui pacient de 49 ani diagnosticat cu neoplasm de col uterin avansat cu fistulă vezico-vaginală la care s-a practicat exenterație totală cu limfodisecție pelvină și inter-aortico-cavă.

Cuvinte cheie: neoplasm de col uterin invaziv, fistulă vezico-vaginală, exenterație

ABSTRACT

Although pelvic exenteration has been for a long time considered as a last therapeutic option or salvage treatment for persistent or recurrent cervical cancer, nowadays this procedure became rather a radical one with good results in terms of postoperative outcomes and overall survival. In cases presenting with locally invasive malignancies or tumor related fistulas pelvic exenteration remains the only curative option. We present the case of a 49 years old patient diagnosed with locally advanced cervical cancer associated with vesico-vaginal fistula in whom a total exenteration with pelvic and inter-aortico-caval lymph node dissection was performed.

Key words: invasive cervical cancer, vesico-vaginal fistula, exenteration

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INTRODUCTION

Cervical cancer still represents an important health problem, many cases still being diagnosed in an advanced stage of disease with already existing invasion of the surrounding viscera. (1,2) The presence of a locally invasive cervical tumor with aggressive surgical behaviour can produce local tumoral invasion which sometimes is associated with continuity solutions between different organs. When it comes to cervical cancer, the viscera most frequently affected by the formation of these fistulas are rectum and urinary bladder. (3,4) We present the case of a 49 year old patient diagnosed with stage IVA cervical cancer in whom a total supralelevator exenteration was performed.

CASE REPORT

The 49 year old patient presented for pelvic pain associated with loss of urine and blood through the vagina. The local examination revealed the presence of a large cervical tumor invading both the urinary bladder and rectum, with an important communication between bladder and vagina. Preoperative imagistic exams revealed the presence of a large pelvic mass originating from the uterine cervix invading the urinary bladder and forming at this level a vesico-vaginal fistula associated with rectal invasion and large pelvic adenopathies. The biopsy showed a moderately differentiated squamous cell carcinoma of the cervix while the preoperative cystoscopy confirmed the tumoral invasion and the presence of the vesico-vaginal fistula. Due to the presence of the urinary fistula we decided to perform surgery as primary intention treatment. A total exenteration with pelvic and para-aortic lymph node dissection was performed (Figs. 1-4). The 2 ureters were exteriorised in right terminal urostomy (Fig. 5), while the left colon was exteriorised in left terminal colostomy. The histopathological findings on the specimen (Fig. 6) confirmed the presence of a moderately differentiated squamous cell cervical carcinoma. Pelvic lymph nodes were positive bilaterally while para-aortic lymph nodes were negative.

DISCUSSIONS

Vesico-vaginal fistulas represent complications associated with various gynecologic pathologies or

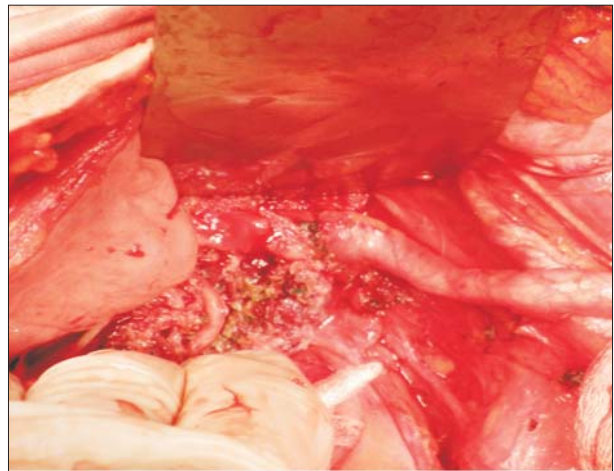


Figure 1. The initial aspect: large cervical tumor invading the distal right ureter with secondary uretero-hydronephrosis

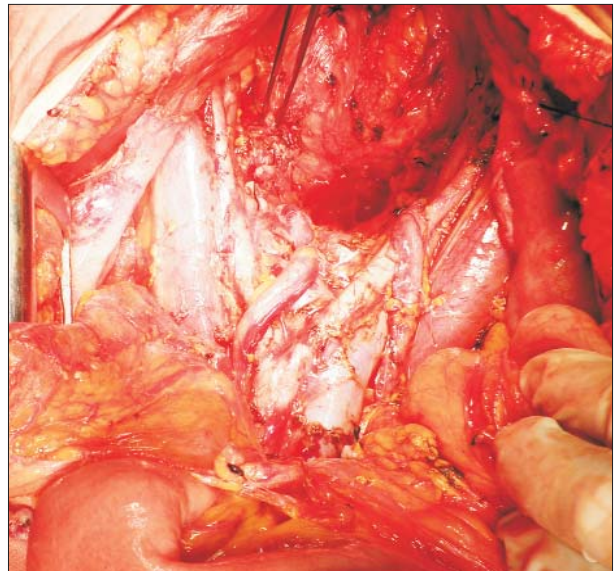


Figure 2. The final aspect after removing the tumor en bloc with total cystectomy and rectosigmoidectomy

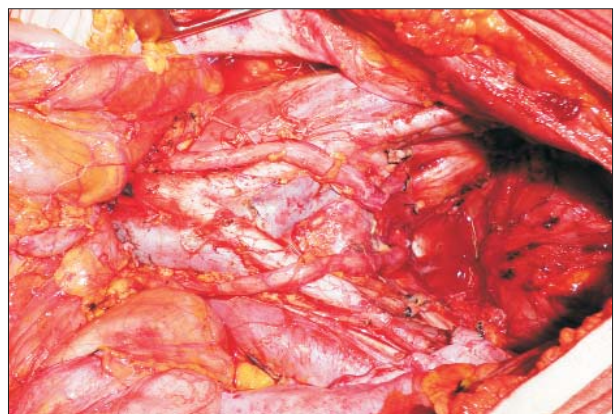


Figure 3. Para-aortic lymph node dissection

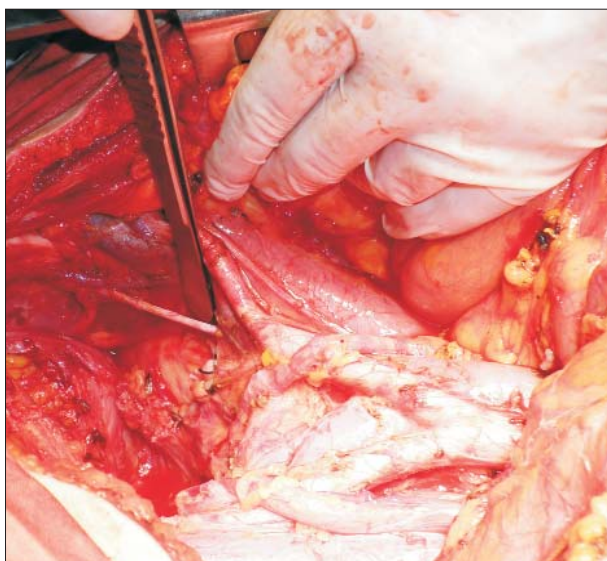


Figure 4. The right obturator fossa after lymphadenectomy

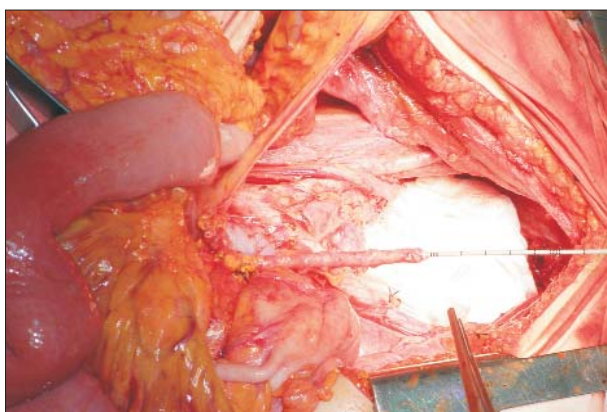


Figure 5. Insertion of the urinary stent

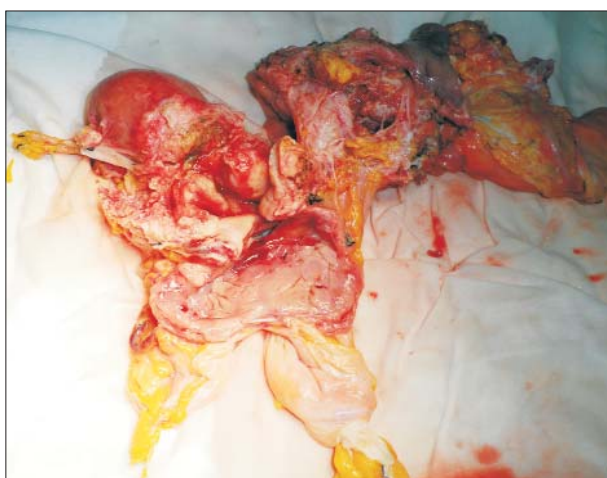


Figure 6. The specimen: large cervical tumor invading the urinary bladder and the rectum

they can be post-procedural findings. A vesico-vaginal fistula usually can occur following pelvic surgery or it can be the consequence of a local infection or labour trauma; in cases presenting with pelvic malignancies it can be caused either by local invasion of the tumoral process or it can be the result of the reduced blood flow supply secondary to an intensive radiation therapy. (4,5,6)

While in cases presenting postprocedural vesico-vaginal fistulas a conservative treatment or urinary reconstruction can be performed, when it comes to vesico-vaginal fistulas associated with locally advanced pelvic malignancies a more aggressive surgical approach must be taken in consideration. (3) However, in all these cases a thorough pre-operative examination is needed in order to establish whether the fistula is formed by local tumoral invasion or as a side effect of an aggressive radiation therapy. Nowadays MRI is one of the most appropriate imaging studies in order to differentiate whether there is a radiation related fistula or a tumor related one. If MRI reveals radiation therapy - related changes it may suggest to the surgeon that a more conservative procedure can be feasible, for instance interposition of a graft for cases presenting limited lesions or urinary diversions if late and severe effects of radiation are found. In patients with advanced primary or recurrent tumors with local invasion and secondary fistulous courses the only potential curative solution remains an extended multivisceral pelvic resection. (6) It is well known that the archetype of this multivisceral pelvic resection remains pelvic exenteration, performed for the first time by Alexander Brunschwig, an American surgeon in a series of 22 patients with locally invasive pelvic malignancies, with a peri-operative mortality rate of 23%. In the original series reported by Brunschwig the main indications were advanced pelvic tumors associated with debilitating pain or fistulas. Although at that moment pelvic exenteration had rather a palliative intent, it significantly improved the quality of life, as Brunschwig himself declared: "Because of the advanced stage of their disease, it is not to be anticipated that many, if any, of these patients will survive for very prolonged periods....On the other hand, of those surviving at this writing, not one has expressed the feeling that they would have preferred to have remained as they were and not to have had the operation" (7)

However, in the last few decades the outcomes

significantly improved due to the association of neo-adjuvant treatment and to the improvements of surgical techniques and anesthesiological intra-operative and postoperative management. These are the main reasons which led to a significant increase of the 5 year overall survival which nowadays can exceed 50%. (3)

In the study conducted by Simone Marnitz, 55 patients with pelvic malignancies were included. Primary surgery was performed in 20 cases while the other 35 patients were submitted to surgery for recurrent pelvic malignancies. The main surgical procedures were total exenteration (51 patients), anterior exenteration (1 case) and posterior exenteration (3 cases). Histopathological examinations revealed positive resection margins in 13 cases while in the other 42 cases no invasion of the resection margins were found. Positive lymph nodes were found in 19 cases, 13 patients presented more than 1 positive lymph node, while 23 cases had negative lymph nodes. Postoperative morbidity was 58.2% while postoperative mortality reached 5.4% (3 patients died within the first 30 days postoperatively). The 5 year overall cumulative survival rate was 36.8%; when studied separately on the two main groups (primary tumors versus recurrences), 5 year overall survival was 52.5% in the primary group and 26.7% in the recurrent group ($p=0.0472$). This study concluded that the most important prognostic factors associated with long term survival were primary tumor versus recurrence, negative resection margins (2-year survival rate of 55.2% for cases with tumor-free resection margins, and only 10.2% for those with positive margins - $p=0.0057$) and the curative versus palliative intention (2-year survival rate was 60% for curative intention and only 10.5% for palliative intention - $p=0.0001$). The same study concluded that neither the lymph node status, infiltration of the urinary bladder, type of exenteration nor association of adjuvant therapy impacted on survival. (8)

Popescu et al conducted a study on 73 patients submitted to pelvic exenteration in Fundeni Clinical Institute, Bucharest. Pelvic exenteration was performed for primary tumors in 24 cases and for pelvic recurrences in 49 cases. The main sites for the primary tumors were: uterine cervix (45 cases), rectum (19 cases), vagina (5 cases), endometrial (3 cases) and urinary bladder (1 case). Postoperative morbidity rate was 52% while postoperative mortality was 6.8% (5 deaths occurred within the

first 30 days postoperatively). (9)

In the study of Yoo et al 61 patients were submitted to pelvic exenteration for advanced pelvic malignancies. Total pelvic exenteration was performed in 42 cases, anterior exenteration in 17 cases while posterior exenteration was performed in 2 cases. One patient presented a large vesico-vaginal fistula so she was submitted to surgery as a primary intention treatment and a total exenteration was performed. In the other cases neo-adjuvant radiation therapy was performed. The overall morbidity rate was 44%. Five year overall survival rate was 56% while 5 year disease free survival was 49%. The most important prognostic factors were negative resection margins ($p=0.019$), the absence of pelvic wall involvement ($p=0.009$) and the absence of rectal involvement. At univariate analysis the urinary bladder invasion didn't seem to impact on overall survival. ($p=0.113$)

Berek et al reviewed data from UCLA, Los Angeles and included in their study 75 patients who underwent pelvic exenterations during a period of 45 years (between 1956 and 2001). The main indications for pelvic exenteration were recurrent or persistent cervical cancer or vaginal cancer (67 cases) and uterine cancer (8 cases). They reported a 5 year survival rate of 54% the most important prognostic factor being negative margins on the pathological analysis. They also described the presence of urinary fistulas due to recurrent tumors in 3 cases, all of them being managed with palliative nephrostomies. (3)

Association of urinary fistula was considered by some other authors as an indication for palliative exenteration. Lambrou et al considered that patients presenting tumor related fistula, therapy resistant hemorrhagic proctitis or cystitis are rather candidates for a palliative exenteration. However they reported a 5 year overall survival rate of 17% in this subgroup of patients. (11)

CONCLUSIONS

Due to the improvements of operative techniques and postoperative management, overall survival after pelvic exenteration significantly increased. Although it consists in multiple pelvic viscera resections, studies have shown that the association of cystectomy in cases presenting local invasion of the urinary bladder is not associated with a poorer outcome. As in our case, although the

presence of a vesico-vaginal fistula represents a contraindication for neo-adjuvant radiation therapy, a total multipelvic resection seems to be an appropriate therapeutic option with good oncologic results.

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