Laparoscopically assisted vaginal hysterectomy with bilateral salpingo-oophorectomy due to endometrial cancer in a heart transplant recipient. A case report

K. Szyłło[1], *M.D. Ph.D.*; **U. Bartodziej**[2], *M.D.*; **B. Włodarczyk**[2], *M.D. Ph.D.*; **Z. Dobrowolski**[2], *M.D.*; **H. Romanowicz-Makowska**[3], *M.D. Ph.D.*

[1]Head of Gynaecological Surgery Department, [2]Gynaecological Surgery Department, [3]Department of Pathology
Polish Mother's Health Center Institute, Łódź (Poland)

Summary

Introduction: Transplant recipients have a higher incidence of cancer compared with the general population. This increased risk is related to the intensity and chronicity of immunosuppression that these patients receive. In this report, we present a case of a heart transplant woman with endometrial cancer who was diagnosed six months after transplantation.

Case report: A 49-year-old woman who had undergone a heart transplant was referred to our department in May 2002 for final treatment. The diagnosis of endometrial cancer was established on the basis of the histopathology findings of the fractional curettage. Her heart transplant had occurred six months before, as a result of idiopathic restrictive cardiomyopathy. The patient received triple immunosuppression with cyclosporin, azathioprine and prednisone and she displayed no signs of acute graft rejection features. Laparoscopically assisted vaginal hysterectomy with adnexa was performed without any complications. Duration of surgery was 85 minutes. The patient was operated on under general anesthesia and intraabdominal pressure was automatically maintained at 10 mmHg with a carbon dioxide insufflator (AESCULAP, Germany). Immunosuppressive therapy was continued without modification. The postoperative course was uncomplicated in our patient. No significant changes in heart rate or blood pressure were observed. The patient was discharged from the hospital on the 11th postoperative day. Microscopic appearance revealed Stage I endometrial cancer. The patient is in good physical condition with normal heart performance and without disease recurrence.

Conclusion: In our opinion LAVH was a justifiable form of surgical management in the treatment of a heart transplant recipient with an early-stage endometrial cancer.

Key words: Heart transplant recipient; Endometrial cancer; LAVH.

Introduction

The development of de novo malignancies is a well-recognized complication in immunosuppressed transplant recipients. The cancer incidence in patients who undergo transplantation ranges from 4% to 18% (average 6%). Predominant tumors are lymphomas, skin and lip carcinomas, vulvar or perineal carcinoma, in situ cervical carcinomas, and Kaposi sarcomas [1]. Penn first reported the association of malignancies with transplantation and immunosuppression in 1968 [2]. In this report, we present a case of a heart transplant recipient with endometrial cancer who was diagnosed six months after transplantation.

Case report

A 49-year-old woman, multiparous, who had undergone a heart transplant presented to our hospital the first time in April 2002 with abnormal vaginal bleeding and a few days' history of the lower abdominal pain. Her heart transplant had occurred six months before, as a result of idiopathic restrictive cardiomyopathy. The patient received triple immunosuppression with cyclosporin, azathioprine and prednisone and displayed no acute graft rejection features. Preliminary internal examination revealed a slightly enlarged uterine corpus and the presence of intensive bleeding from the uterus. On admission to our institute, the patient's hemoglobin level was 9.1 g/dl. Cervix dilatation and fractional curettage were performed under intravenous anesthesia. The histologic findings showed endometrial adenocarcinoma. She was referred to our department the next time in May 2002 for final treatment. Her physical examination demonstrated mild hypertension treated with perindopril (Prestarium, Servier) and heart rate was 67 to 101 beats/min. Transthoracic echocardiography showed normal left ventricular systolic function and no valvular abnormality. Posteroanterior chest radiograph was normal. Computer tomogram taken before the operation revealed a well-defined, enlarged uterus and normal ovaries. No abdominal or pelvic lymphadenopathy was present. Due to laboratory investigations the hemoglobin level was 11.8 g/l. Biochemistry, liver and renal function tests, serum glucose level, and clotting profile were normal. In consultation with the Department of Heart Insufficiency (Heart Institute in Warsaw) and our anesthesiologists we decided to perform laparoscopic surgery. Laparoscopically assisted vaginal hysterectomy with adnexa was performed without any complications. Duration of surgery was 85 minutes. The patient was operated on under general anesthesia and intraabdominal pressure was automatically maintained at 10 mmHg with a carbon dioxide insufflator (AESCULAP, Germany). Intraoperative monitoring was noninvasive, including blood pressure, continuous electrocardiograms, pulse oximetry, capnography, and airway pressures. The operation was performed using a standard surgical technique in a reverse Trendelenburg position. The patient received a single dose of antibiotic (ceftazydym) before induction of general anesthesia. Anticoagulative agents (clexane, aventis) were given one day before the operation. Immunosuppressive therapy was continued without modification. Antibiotic and anticoagulative therapy were continued during the following six days. On the day after surgery hematocrit concentration was 27% and the patient required a blood transfusion. The postoperative course was uncomplicated in our patient. No significant changes in the heart rate and blood pressure were observed. A normal diet with usual medications was resumed the second day after surgery. The patient was discharged from the hospital on the 11th post-

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operative day. Pathologic gross examination (no. 14789-02) showed slightly distended endometrial cavity with friable, polypoid masses (Figure 1). The microscopic appearance revealed an endometrial adenocarcinoma of the uterine corpus with superficial myometrial invasion (Figure 2). The adnexa and parametria were histologically uninvolved. After surgery, standard radiotherapeutic modalities were applied.

Discussion

Mandatory use of prolonged immunosuppression in organ transplantation is complicated by an increased incidence of cancer [3, 4]. The predisposing risk factors are controversial. Age > 50 years, average dose of azathioprine, higher incidence of rejection episodes in the first year post transplant and pre-existing malignancies have been identified as risk factors for neoplasia after orthotopic heart transplantation [3, 5]. In this report we have discussed the case of a woman who presented with endometrial cancer that was revealed six months after a heart transplantation. To our knowledge, this is the first such case reported. The incidence of gynecologic tumors in heart transplant patients was 4.3% in the studies of Tenderich [1]. On the other hand, Rinaldi [6] observed 3.2% of uterine malignancies after heart transplantation. Due to the patient's relatively young age, short follow-up after heart transplantation, and no occurrence of the risk factors for endometrial cancer, the analysis and interpretation of this case is difficult. Multiple studies in the recent literature have shown, retrospectively, a significant increase of neoplasia incidence in heart transplant recipients [1, 3]. Therefore, the authors have recommended specific tumor screening at least twice a year and exclusion of patients with pre-existing malignancy of any kind from heart transplantation [5]. The use of laparoscopic surgical techniques for the management of gynecologic malignancies has increased in recent years. According to many authors, laparoscopic treatment of endometrial cancer is safe in the hands of experienced operators and causes minimal intraoperative and postoperative complications [7, 8]. This procedure is associated with significantly less blood loss, less postoperative pain, shorter hospitalization and reduction of wound infections. Therefore laparoscopic-assisted vaginal hysterectomy (LAVH) is an attractive alternative for selected patients with early-stage endometrial cancer. In our case, duration of the laparoscopic operation (85 minutes) was shorter than the mean time (102 and 214 minutes) for LAVH reported by other authors [9, 10]. The intraabdominal pressure during this operation (10 mmHg) was lower than usual. There were no significant hemodynamic changes associated with pneumoperitoneum and patient position. Laparoscopy allowed our patient to keep on with oral immunotherapy without any interruption. In our opinion LAVH was a justifiable form of surgical management in the treatment of a heart transplant woman with early-stage endometrial cancer.

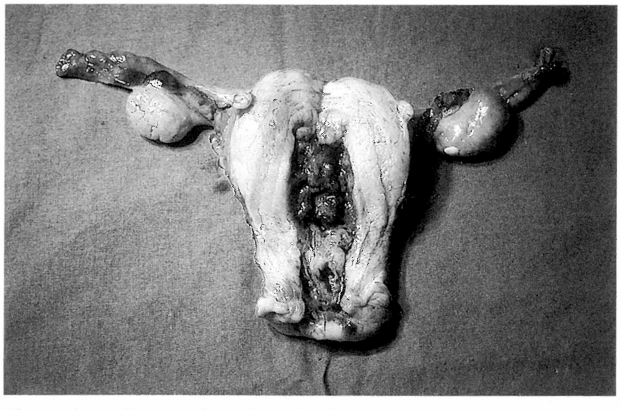

Figure 1. — Resected uterus with its adnexa. In the center of the photo, polypous masses in the cavity of the uterus can be seen.

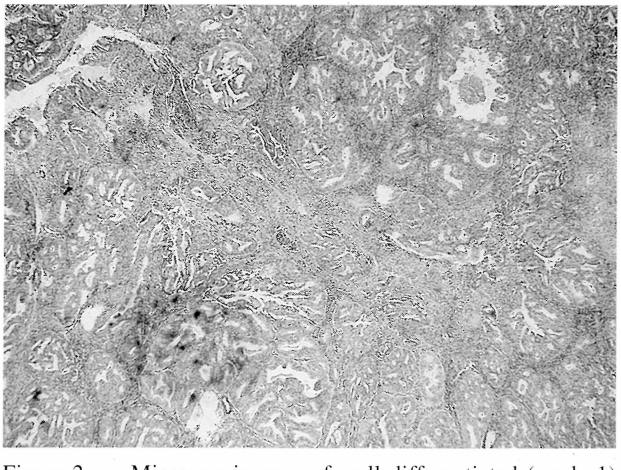

Figure 2. — Microscopic scan of well-differentiated (grade 1) endometrial adenocarcinoma (H&E x100).

References

[1] Tenderich G., Deyerling W., Schultz U., Heller R., Hornik L., Schulze B. *et al.*: "Malignant neoplastic disorders following long-term immunosuppression after orthotopic heart transplantation". *Transplant. Proc.*, 2001, *33,* 3653.

[2] Penn I., Brunson M.E.: "Cancer after cyclosporin therapy". *Transplant. Proc.,* 1988, *20* (suppl. 3), 885.

[3] Caforio A.L.P., Gambino A., Piaserico S.: "De novo noncutaneous malignancies in heart transplantation: A single-centre 15-year experience and risk factor analysis". *Tranplant. Proc.,* 2001, 33, 3658.

[4] Penn I.: "Incidence and treatment of neoplasia after transplantation". *J. Heart Lung Transplant.,* 1993, *12,* 328.

[5] Conraads V.M., Denollet J., Vorlat A., Moulijn A. C., Vrints C. J.: "Screening for solid organ malignancies prior to heart transplantation". *Transplantation,* 2001, *71,* 10, 1481.

[6] Rinaldi M., Pellegrini C., D'Armini A., Aiello M., Negri M., Arbustini E. *et al.*: "Neoplastic disease after heart transplantation: single center experience". *Eur J. Cardio-thoracic. Surg.*, 2001, *19,* 696.

[7] Fram K.M.: "Laparoscopically assisted vaginal hysterectomy versus abdominal hysterectomy in stage I endometrial cancer". *Int. J. Gynecol. Cancer,* 2002, *12,* 1, 57.

[8] Eltabbakh G.H., Shamonki M.I., Moody J.M.: "Laparoscopy as the primary modality for the treatment of women with endometrial carcinoma". *Cancer,* 2001, *91,* 2, 378.

[9] Gemignani M.L., Curtin J.P., Zelmanovich J., Patel D., Venkatraman E., Barakat R. R.: "Laparoscopically-assisted vaginal hysterectomy for endomerial cancer: clinical outcomes and hospital charges". *Gynecol. Oncol.,* 1999, *73,* 1, 5.

[10] Song J., Kim S.H., Cho S.J., Park C. S., Ku P. S.: "Rational type of laparoscopic hysterectomy and safety in anesthetic profiles". *J. Obstet. Gynecol. Res.*, 1999, *25,* 1, 55.

Address reprint requests to:
K. SZYŁŁO, M.D., Ph.D.
Gyn. Surgery Dept. Polish Mother's Health Ctr. Inst.
Rzgowska Street 281/289
Lodz, 93-338 (Poland)