Pelvic and Paraaortic Lymphadenectomy As a Staging and Therapeutic Procedure: Mortality and Morbidity¶

EVRELENDİRİCİ VE TEDAVİ EDİCİ BİR PROSEDÜR OLARAK PELVİK VE PARAAORTİK LENFADENEKTOMİ: MORBİDİTE VE MORTALİTE

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Summary

Objective: *To assess the complications occurred due to pelvic and paraaortic lymphadenectomy*

Study Design: *A retrospective review of 41 patients with gynecologic malignancies who underwent pelvic and paraaortic lymphadenectomy along with various types of hysterectomy was performed for intraoperative, early postoperative and late postoperative complications.*

Results: *Vascular injuries occurred in two patients (4.8%): one internal iliac artery (2.4%) and one vena cava inferior (2.4%). Two patients experienced tromboembolic complications (4.8%). One pelvic lymphocele (2.4%) was diagnosed postoperatively. Obturator nerve injury occurred in one case (2.4%). In nine patients (21.9%), minor complications such as wound infection, prolonged ileus and prolonged fever were observed.*

Conclusion: *We conclude that lymphadenectomy procedure can be performed with low morbidity in all gynecologic malignancies by means of proper surgical technique and wide experience.*

Key Words: Lymphadenectomy, Complications, Lymphocele

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Özet

Amaç: *Pelvik ve paraaortik lenfadenektomiye bağlı gelişen komplikasyonların değerlendirilmesi*

Çalışma Dizaynı: *Jinekolojik kanserler sebebiyle pelvik-paraaortik lenfadenektomi ile çeşitli tipte histerektomiler yapılan 41 hasta, lenfadenektomi prosedürüne bağlı intraoperatif, erken postoperatif ve geç postoperatif komplikasyonlar açısından retrospektif olarak değerlendirildi.*

Bulgular: *İki hastada (%4.8) vasküler yaralanma oluştu: 1 (%2.4) internal iliak arter ve 1 (%2.4) vena kava inferior. İki hastada (%4.8) tromboembolik komplikasyonlar gelişti. Pelvik lenfosel, bir (%2.4) hastada saptandı. Obturator sinir yaralanması, bir (%2.4) hastada oluştu. Kesi yeri enfeksiyonu, uzamış ileus ve uzamış ateş gibi minör komplikasyonlar, dokuz hastada (%21.9) gözlendi.*

Sonuç: *Uygun bir cerrahi teknik ve geniş tecrübe ile lenfadenektomi prosedürü, tüm jinekolojik kanserlerde düşük komplikasyon oranlarıyla yapılabilir.*

Anahtar Kelimeler: Lenfadenektomi, Komplikasyonlar, Lenfosel

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Pelvic and paraaortic lymphadenectomy plays an important role in gynecologic cancers for two decades as a staging and therapeutic procedure. It has been estimated that extensive node sampling has benefits such as removing occult emboli ,determining prognosis and planning adjuvant therapy

(1). Furthermore ,in recent studies, it was emphasized that patients with various gynecologic malignancies undergoing regional lymph node sampling had better survival than patients without this procedure (2,3).

Most common complications encountered due to pelvic and paraaortic lymphadenectomy are vascular and nerve injuries, lymphocele formation, prolonged fever and ileus (4-7).

We evaluated the complications of pelvic and paraaortic lymphadenectomy occurred during and after operation.

Material and Method

From September 1995, to March 1997, a total of 41 patients were operated due to various gynecologic malignancies in Obstetrics and Gynecology Department of Akdeniz University, Antalya. The distribution of these malignancies were as follows :20 ovarian, 6 cervical, 10 endometrial, 4 uterine sarcoma and 1 vaginal.

All patients received 5000 U subcutaneous heparin sulfate and 2 g intravenous cefazolin 30 minutes before operation. Through a vertical incision ,depending on the type of malignancy, extrafacial hysterectomy was extended. Pelvic lymphadenectomy was performed by removing the lymphatic tissue overlying the external iliac artery and vein, internal iliac artery and obturator fossa above the obturator nerve. By incising posterior peritoneum at the base of small bowel mesentery paraaortic lymph nodes were excised. Two drains were left in the retroperitoneal space. Subcutaneous heparin sulfate was continued at least for 7 days and IV antibiotic was administered until the 5th postoperative day.

At four month after the operation, abdominal ultrasonography or computerized tomography was performed to all patients and intravenous pyelography was performed in 5 patients.

Results

Of the 41 patients, histologic types and stages of the malignancies are shown in Table 1. Clinical stages were assigned in accordance with FIGO. Radical hysterectomy was performed in cases of cervical carcinomas. Other hysterectomies were type 1. In two clinically Ib2 cervical carcinoma, final pathologic diagnosis were determined as stage III as surgical margins were tumor positive. Table 2 shows the complications observed due to the procedure. No mortality occurred. During the operations, vascular injuries occurred in two patients: one in the internal iliac artery and one in the inferi-

Table 1. Patients undergoing hysterectomy and pelvic-paraaortic lymphadenectomy

Malignancy	Stage	N
Cervix	I	5
	II	1
Endometrium	I	9
	III	1
Uterine Sarcoma	I	1
	II	3
Vagina	II	1
Ovary	I	4
	II	1
	III	10
	IV	5
TOTAL		41
Age (year)		54.8 (13 - 78)
Mean Hospital Stay (days, mean)		10,4 (6 - 22)
Nodes Removed (No., median)		25,4 (9 - 52)
Node metastais (No of patients)		
Positive		
Pelvic		11 (26%)
Paraaortic		9 (21%)
Total		16 (39%)
Negative		25 (61%)

Table 2. Complications and relations with nodal status

	Nodes Positive No.Pts (%)	Nodes Negative No.Pts (%)	Total No.Pts (%)
Obturator Nerve Injury	0	1	1(2.4)
Vessel injury	1	1	2(4.8)
Wound Infection	3	3	6(14.6)
Pulmonary Embolism	0	2	2(4.8)
Prolonged Ileus	1	1	2(4.8)
Prolonged Fever	1	2	3(7.3)
Lymphocel	1	0	1(2.4)

or vena cava .(4.8%) Approximately 30-40 cc blood loss occurred in each lacerations. These complications were repaired immediately and did not cause any vital harm. Obturator nerve was lacerated in one patient (2.4%) who had a transient motor and sensory deficit subsequently. In two months postoperatively she recovered with physiotherapy. In the early postoperative period, two patients (4.8%) experienced tromboembolic complications. These patients showed signs and symptoms such as chest pain and mild dyspnea. Perfusion and ventilation scans could not exclude pulmonary emboli.

Wound infection was appeared in six patients (14.6%), however neither fascial dehiscence nor incisional hernia occurred subsequently. In three patients (7.3%), prolonged fever was observed which spontaneously resolved in a few days and did not need any further evaluation. Two patients (4.8%) had prolonged ileus: One of them experienced this problem for a few days in the early postoperative period and recovered spontaneously, the other patient was admitted in our hospital with the symptoms of ileus on the 20. postoperative day. Explorative surgery revealed adhesions at the operation site and lysis was performed. She has not any complaints or signs of malignancy or adhesions so far.

Lymphocele was diagnosed with ultrasonography as a 117x67 mm mass in the paraaortic area one month postoperatively in a patient underwent total abdominal hysterectomy and bilateral salpingo-oophorectomy with pelvic and paraaortic lymph node excision. Her final pathologic diagnosis was well differentiated serous cyst adenocarcinoma. Tumor metastasis was assessed in a paraaortic lymph node. The patient had not any complaints along. Subsequently diameters decreased to 58x67 mm by the fourth month postoperatively. Finally it was totally disappeared in the 10th postoperative month.

Discussion

Evaluation of lymph node status plays an important role in the management of gynecologic malignancies. Clinical examination and diagnostic imaging methods such as lymphangiography, ultrasound, and computed tomography have been used widely for this purpose, but they are proved to be inadequate (8). Thus excision of lymph nodes is one of the main factors which is strongly associated with the prognosis of the disease.

Complications occurred during our operations did not cause any further hazardous complications. We believe that operative technique and experience are the main factors associated with the rate of complications. Also surgeon must be strongly familiar with anatomic variations that can yield complications easily. Moreover appropriate management of such complications should be held quickly and completely as it is frankly related with the morbidity and mortality. Homesley et al (9) reported that operating time, postoperative stay, estimated blood loss and postoperative complications were increased significantly between the surgeons, although patients were not randomly assigned to treatment in that study related to other risk factors such as age and weight. On the other hand, such procedures should be performed in well-designed centers in which optimal postoperative recovery and follow -up can be obtained. Many complications are seen more serious in the absence of those of factors.

Our experience suggests that vascular injuries are not of hazardous complications by means of immediate intervention and repair techniques. We did not observe any complicated vascular laceration in our series. Moore et al reported 5.2% vascular injuries in 191 patients who underwent total abdominal hysterectomy and bilateral salpingo-oophorectomy with pelvic and/or periaortic lymph node biopsies for adenocarcinoma or sarcoma of the uterine corpus (4). Our complication rate did not show any differences regarding that result.

Calais et al reported that 11 of 155 patients (7.1%) with endometrial cancer underwent pelvic lymphadenectomy had tromboembolic disease (5). We had two cases mentioned as pulmonary embolus in our results. Both have unexplained chest pain and mild dyspnea and used. Actually we reported these cases as pulmonary embolus because of inability of excluding that diagnosis by perfusion and ventilation scans of lung. Although routine usage of subcutaneous heparin, tromboembolic disease can occur. However difficulty of the diagnosis may be the reason of high rate of the tromboembolic complications.

Lymphocele is a lymph-filled extraperitoneal space with no epithelial lining and one of the potential complications of lymphadenectomy procedure. Incidence is varied from 1,5% (10) to 25.3 %(11). It was stated that more radical lymphadenectomy (12), positive nodes (13) and prophylactic heparin (14,15) are the risk factors. Although we used prophylactic heparin and performed extensive lymphadenectomy routinely , only one lymphocel formation was diagnosed in our group, who has not had even any lymphocel symptoms such as abdominal pain, tenesmus, urinary frequency, hydronephrosis, leg edema and/or deep venous thrombosis.

Our experience suggests that lymph node biopsy is not a procedure with high morbidity. Although we lack of a control group to determine this decision, several reports could not find any significant difference for blood loss, transfusions requirements and length of hospital stay comparing to gynecologic malignancies without lymph node sampling performed (4,6,7,9).

In conclusion pelvic paraaortic lymphadenectomy can be performed in all gynecologic cancers safely by a proper surgical technique and experience especially in centers where optimal operative and postoperative care can be held.

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