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Original Article

Laparoscopic pelvic lymphadenectomy in patients with intermediate-risk endometrial cancer: Is it worth it?

A. Pinton [a,*], L. Lecointre [a], M. Hummel [b], M.-A. Metten [c], M. Rodriguez [a], A. Bryand [a,b], J.-J. Baldauf [a], O. Garbin [b], C. Akladios [b]

[a] Department of Obstetrics and Gynaecology, Strasbourg University, Hôpital de Hautepierre, avenue Molière, 67091 Strasbourg, France
[b] Department of Obstetrics and Gynaecology, Hôpital du CMCO, 19, rue Louis-Pasteur, 67300 Schiltigheim, France
[c] Department of Biostatistics, Strasbourg University, Strasbourg, France

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ABSTRACT

Objective. – The main aim of this study is to evaluate operative and postoperative morbidity of laparoscopic pelvic lymphadenectomy as well as its potential impact on the postoperative management in patients with an intermediate-risk of endometrial cancer.
Methods. – We did a retrospective study between January 2009 and December 2013. We included all patients operated by laparoscopy for endometrial cancer presumed to have an intermediate-risk of recurrence. Pelvic lymphadenectomy in this group of patients was performed at the discretion of operating surgeons. Patients were consequently divided into two groups according to whether or not pelvic lymphadenectomy was performed. We made a comparative analysis between these two groups.
Results. – Overall, 116 patients were managed for endometrial cancer presumed to be intermediate-risk. Among these, 93 received treatment with laparoscopy and were included in the study. Patients' characteristics did not differ between the two groups. The mean duration of surgery was significantly longer when pelvic lymphadenectomy was performed. The average number of retrieved lymph nodes was 13 and we had seven patients with positive lymph nodes (10%).
Conclusion. – Pelvic lymphadenectomy allows a better postoperative classification for some patients without more complication.

Introduction

Endometrial cancer is the most common gynaecological malignancy in developed countries, with a rising incidence in the developing countries. In France, we noted 7275 new cases (4.7% of all cancers in female patients) in 2012 [1]. Most of the cases are classified in early stage. "Early stage" corresponds to tumours limited to the uterine corpus [2]. Recently, ESMO guidelines refined classification: low risk, intermediate risk and high-intermediate risk has been introduced [3]. Pelvic lymphadenectomy is no longer performed for low-risk and intermediate risk due to the absence of a survival benefit and its associated effect. In the high-intermediate-risk group, however, the rate of metastatic lymph node remains unclear [4]. The guidelines allow for two options: performing or not pelvic lymphadenectomy [5].

ESMO's recommendations are based on several studies showing the absence of a real advantage in terms of survival in early stage endometrial cancer with a higher operative morbidity [6,7]. However, these results could be questionable for at least two reasons. Firstly, the nomenclature has changed and the concept of intermediate-risk is relatively new. In recent studies, there has been an element of confusion between intermediate- and high-risk, with most of the studies amalgamating intermediate-risk and high-risk patient groups [6]. This induces a potential confusion between these two groups. Secondly, surgical procedures have evolved and nowadays minimally invasive surgery is widely used in oncologic interventions and especially in the case of endometrial cancer [8].

The main aim of this study is to evaluate operative and postoperative morbidity of laparoscopic pelvic lymphadenectomy

* Corresponding author at: Hôpital de Hautepierre, avenue Molière, 67091 Strasbourg, France.
E-mail address: anne.pinton@gmail.com (A. Pinton).

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as well as its potential impact on postoperative management for the patient in intermediate risk.

Materials and methods

This retrospective observational study was conducted at the University Hospital of Strasbourg, France (Department of Obstetrics and Gynaecology), after obtaining the approval of the ethics committee of the department and making a declaration to the National Committee for Computing and Liberties (French Data Protection Agency– number 1814862 v0).

Between January 2009 and December 2013, all patients operated by laparoscopy for endometrial cancer presumed to have an intermediate risk of recurrence were included in the study. The inclusion of patients in this group was based on preoperative estimation of the depth of invasion of the myometrium and the histological type and grade of the tumour. The depth of invasion of the myometrium was evaluated by MRI or endovaginal ultrasound if the MRI was not available. The histological type and grade of the tumour were obtained at endometrial biopsy or curettage. Definitive stage and grade were decided according to the histological examination of the operative specimens. Pre and postoperative staging was done according to the FIGO classification [2]. Pelvic lymphadenectomy in this group of patients was performed at the discretion of operating surgeons. Patients were divided into two groups according to whether or not pelvic lymphadenectomy was performed.

Surgical intervention was standardised. Each patient was placed in a supine position and a 10 mm umbilical trocar was first introduced. After exploration of the abdominal cavity, three additional trocars were introduced under visual control: two at the level of the iliac fossa on each side and one trocar midway between the umbilicus and the symphysis pubis. In all cases surgery consisted successively of peritoneal exploration, peritoneal toilet, pelvic lymphadenectomy (if performed) and finally total hysterectomy with bilateral oophorectomy. Pelvic lymphadenectomy was performed as described in Leblanc's study [9]. We performed a level I pelvic lymphadenectomy. Throughout the duration of the study, five senior oncologic gynaecologists performed all surgical procedures.

Patient files were reviewed and information regarding demographic characteristics was gathered: pre and postoperative stage and grade of the disease, surgical progress (duration of surgery, operative complications), duration of postoperative hospital stay, any complications, and the characteristics of adjuvant treatment (if indicated).

The duration of surgery was calculated from the incision until the end of the procedure. In the postoperative period, pain assessment was done by visual analogue scale and complications were tabulated according to the Clavien Dindo classification [10]: grade 1 and 2 were considered as minor complications, whereas grade 3 and above were considered as major complications.

Data were collected and analysed using Microsoft® Office Excel 2007 software and R Version 3.1.2 © 2014. Categorical variables were compared with a chi-square test. If the conditions of validity were not met, a Fisher exact test was performed. Quantitative variables were compared with a Student test after checking the normal distribution and equal variances between the two groups. The significant level was set at 0.05. All *P* values were two-sided.

Results

From January 2009 and December 2013, 116 patients were handled by the Department of Obstetrics and Gynaecology of the Strasbourg University Hospital for endometrial cancer presumed to have an intermediate-risk of recurrence. Within this group, 93 received treatment with laparoscopy and were included in the study. Among the excluded patients, seven were operated by laparotomy, 12 by vaginally, two patients were treated by exclusive neoadjuvant radiotherapy and one received palliative care because she was an older woman (90 years old) with multiple diseases, including Alzheimer's (Balducci's score three) (Fig. 1). The mean age of patients was 67.3 years (ranging from 51 to 89 years). Patients' characteristics did not differ between the two groups as shown in Table 1. All patients were postmenopausal with an average age at menopause of 51 years. The mean Body Mass Index (BMI) for the whole study population was 29 kg/m^2 (median: 27.5 kg/m^2, ranging from 16.9 to 49 kg/m^2).

Concerning preoperative tumour characteristics, patients who underwent pelvic lymphadenectomy had more frequently cancers of stage 1A grade 3, although this did not reach statistical significance ($P = 0.08$) (Table 1). Over 93 patients operated by laparoscopy, with 70 (75%) undergoing bilateral pelvic lymphadenectomy. The evolution of the number of patients who underwent pelvic lymphadenectomy by year is illustrated in Fig. 2. It shows a statistically significant decrease over the period of the study ($P < 0.01$). The mean duration of surgery was longer when pelvic lymphadenectomy was performed: 160 versus 120 minutes. This difference was statistically significant ($P < 0.01$). The difference in the proportion of laparotomy conversion was statistically significant ($P = 0.01$) to the detriment of the non-lymphadenectomy group. The average number of retrieved lymph nodes was 13.

Immediate postoperative course was simple with a median visual analogue scale of 1.5 [0–6], an average time to return to normal bowel function of one day and an average time of hospitalisation of six days. For these criteria, we did not find a significant difference between the two groups (Table 2). The overall rate of patients with complications was 22% but major complications reached only 3%. The most common minor complication was a urinary infection. For the major complications, we had two in the lymphadenectomy group: one was a postoperative hemoperitoneum by a lesion of left epigastric arteria. We did an embolisation. The other one was a surgical procedure to take off the blade after its migration inside the pelvis. We found one complication in the no lymphadenectomy group. It was a haemorrhage on the hysterectomy place complicated by a pulmonary oedema with transferred on intensive care unit. Evolution after management was successful. We did not find a significant difference between the two groups in major or minor

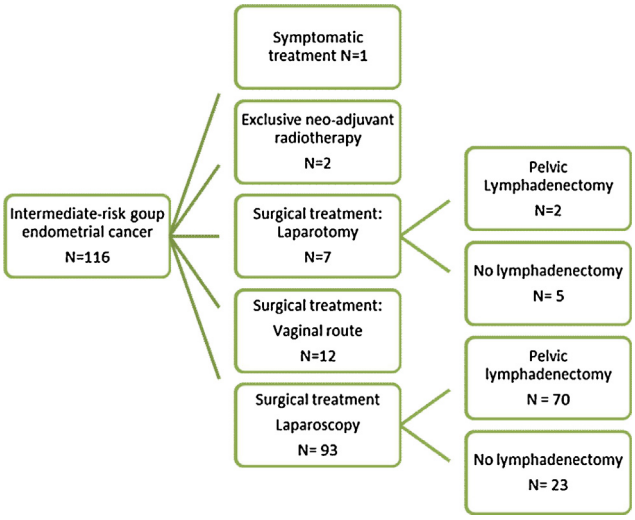

Fig. 1. Flow chart.

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