Comparison of laparoscopy and laparotomy for the pelvic lymphadenectomy in endometrial cancer at the First Department of Obstetrics and Gynaecology of the Medical Centre of Postgraduate Education in Warsaw: own preliminary experience

Porównanie usunięcia węzłów chłonnych miednicy drogą laparoskopii i laparotomii w raku endometrium w materiale I Kliniki Położnictwa i Ginekologii Centrum Medycznego Kształcenia Podyplomowego w Warszawie: własne doświadczenia wstępne

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Summary

Endometrial carcinoma is one of the most common neoplasms in gynaecological oncology. The 5-year overall survival rate depends on the FIGO stage. For patients with stage I endometrial cancer it is estimated as 80%. Traditionally, the main treatment of endometrial cancer consists of total abdominal hysterectomy with bilateral salpingo-oophorectomy and, in some histological or clinical stages, with additional pelvic lymphadenectomy. A laparotomy has so far been the main surgical approach for women with endometrial cancer. However, the last decades have brought up many reports stating that the survival rate in such cases is similar after laparoscopy and laparotomy. Some researchers claim that laparoscopy is as effective as laparotomy and it might be much more precise than laparotomy thanks to its special optic system. For these reasons, it may become the method of choice in the treatment of stage I endometrial cancer in a short period of time. The preliminary results based on data collected during surgical procedures performed at the First Department of Obstetrics and Gynaecology of the Medical Centre of Postgraduate Education in Warsaw confirm these studies.

Key words: laparoscopy, endometrial cancer, lymphadenectomy.

Streszczenie

Rak trzonu macicy jest jednym z najczęstszych nowotworów narządu rodnego kobiety. Rokowanie w tym nowotworze zależy od stopnia zaawansowania klinicznego. W I stopniu wg FIGO 5-letnie przeżycia oceniane są na ok. 80%. Do standardu postępowania w tym przypadku należy zabieg chirurgiczny obejmujący swym zakresem wycięcie macicy wraz z przydatkami, a w niektórych przypadkach także usunięcie węzłów miednicy mniejszej. Tradycyjnie zabieg ten przeprowadzany jest poprzez laparotomię. Ostatnie lata obfitują w liczne doniesienia na temat podobnej skuteczności laparoskopii i laparotomii w leczeniu raka endometrium w I stopniu zaawansowania klinicznego wg FIGO. Niektórzy autorzy twierdzą także, że dzięki specjalnemu układowi optycznemu jest ona metodą bardziej precyzyjną niż laparotomia. Z tego powodu może stać się wkrótce metodą z wyboru w leczeniu tego nowotworu. Wyniki te potwierdzają również wstępne dane uzyskane w czasie zabiegów przeprowadzonych w naszej klinice.

Słowa kluczowe: laparoskopia, rak trzonu macicy, limfadenektomia.

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Introduction

Endometrial cancer is the most common malignancy of the female genital tract and it is fourth most frequently diagnosed cancer among women in Poland. According to the Cancer Center, endometrial carcinoma was diagnosed in 4820 women and there were 952 deaths because of that. About 90% cases of this tumour concern women over 50 years old [1]. Prognosis for patients depends on the stage of cancer according to the FIGO staging system. There is good prognosis in FIGO stage I, when the tumour is limited to the uterus. The overall 5-year survival rate for these patients is estimated to be about 80% [2-4]. The main surgical approach to the treatment of endometrial cancer in FIGO stage I is a hysterectomy with bilateral salpingo-oophorectomy, which is traditionally performed by laparotomy. This procedure should be extended to the additional pelvic lymphadenectomy in some specific cases. They are as follows: moderately or poorly differentiated – grade G2 or G3 of cancer, clear cell or serous cancer and when the infiltrating through the myometrium is over 50%, although accurate indications to these procedures are not clear and are still controversial [2, 5, 6]. The latest studies have revealed that this procedure might be performed by laparoscopy with similar efficacy to laparotomy. Furthermore, many researchers notice some advantages of laparoscopic management over traditional laparotomy, especially for old and obese women [7-9]. Laparoscopic surgery for endometrial cancer was first reported in 1992 by Childers and Surwit [10]. According to some prospective studies, the recurrence and survival rate among patients who underwent laparoscopic treatment of endometrial cancer seems to be similar to these observed among patients after laparotomy [11-13]. Many authors indicate that dissection of lymph nodes (LN) using a less invasive method, such as laparoscopy, is connected with a better postoperative course. Furthermore, higher precision is observed during laparoscopy as a result of a special optic system which gives the surgeon an enlarged view [14, 15]. Additionally, short duration of hospitalization, less blood loss and fast convalescence after laparoscopic surgery allows patients to begin adjuvant therapy more quickly [16].

Objective

The purpose of this study was to compare efficacy and safety of pelvic lymphadenectomy performed by laparoscopy and laparotomy among patients suffering from FIGO stage I endometrial cancer, who were treated between 1 January 2010 and 1 January 2011 at the First Department of Obstetrics and Gynaecology of the Medical Centre of Postgraduate Education in Warsaw.

Material and methods

A retrospective review of medical records of 24 patients who underwent surgical treatment of stage I endometrial cancer at the First Department of Obstetrics and Gynaecology of the Medical Centre of Postgraduate Education in Warsaw from 1 January 2010 to 1 January 2011 was conducted. The first group of 8 patients underwent pelvic laparoscopic lymphadenectomy and the second group of 16 patients were treated traditionally by laparotomy. The mean age of patients from the first group was 64 ±3 years and the mean age of patients from the second group was 65 ±2 years. The access to the retroperitoneal space and to the obturator space was obtained by identifying the triangle between infundibulopelvic ligament, round ligament and external iliac artery. Afterwards, the peritoneum overlaying the common iliac arteries was opened. The incision was extended to the bifurcation of the common iliac artery into the internal and external iliac artery towards the prevesical space. The round ligament was cut and lymph nodes such as common iliac LNs, external iliac LNs, internal iliac LNs and obturator LNs were removed 'en bloc'. The removal of lymph nodes was conducted by graspers, bipolar scissors or a harmonic knife. All the LNs were placed in Endobags and were removed.

Results

In the first group, 2 women were diagnosed with clear cell carcinoma, in 3 cases – cancer of endometrioid type grade 2, and in 3 cases – serous carcinoma. In the second group, there were 6 cases of clear cell carcinoma, 5 cases of serous carcinoma and 5 cases of endometrioid cancer grade 2. The number of lymph nodes obtained in the first group was 18 ±2 and in the second group – 15 ±3. The average blood loss during laparoscopy was 420 ml and after laparotomy it was estimated to be about 540 ml. In the first group there was no need for antibiotics treatment in the postoperative period. There was one episode of fever up to 38°C on the first day after the surgery, the fever disappeared spontaneously. After laparotomy, there were 7 cases of antibiotics treatment as a result of wound dehiscence in 2 cases and in 5 cases there was fever up to 37.8°C which did not disappear spontaneously. The average length of hospitalization also differed between these two groups. A short hospital stay which means 3.2 days was achieved for patients treated by laparoscopy, while patients after laparotomy spent about 8.4 days in hospital.

Histopathological examination of collected materials revealed in the first group 3 cases of inflammatory changes and 1 case of subcapsular metastasis in 3 obturator lymph nodes. Among patients who underwent

laparotomy there were 5 cases of inflammatory changes and 2 cases of subcapsular metastasis in the 2 obturator lymph nodes. There were no pathological changes in the rest of LNs. All patients after histopathological diagnosis were finally referred to the Cancer Centre and Institute of Oncology for consultation or further treatment.

Discussion

This preliminary comparison of pelvic lymphadenectomy performed by laparoscopy and laparotomy in stage I of endometrial cancer shows that laparoscopy seems to be a more precise method than laparotomy [7, 11]. On average there are three more LNs collected after laparotomy in comparison to LNs collected during laparoscopic lymphadenectomy. The postoperative course after laparoscopy was better than after laparotomy. Probably, it was a result of less estimated blood loss, less postoperative pain and rare antibiotics treatment. The great advantage of laparoscopic approach is also a shorter time of hospitalisation which was about 3.2 days in comparison with 8.4 days that patients spent in hospital after laparotomy. These results are comparable to the studies underlying better outcomes of laparoscopic management of endometrial cancer which have been published recently [8, 9, 12].

In July 2010, a randomized trial about the safety of laparoscopy versus laparotomy in early-stage endometrial cancer was published. This randomized trial was done in 21 hospitals in the Netherlands, and 26 gynaecologists with proven sufficient skills in TLH (total laparoscopic hysterectomy) participated. 283 patients with stage I endometrioid adenocarcinoma or complex atypical hyperplasia were randomly allocated (2 : 1) to the intervention group (TLH, n = 187) or control group (TAH, n = 96). The proportion of major complications was 14.6% (27 of 185) in the TLH group versus 14.9% (14 of 94) in the TAH (total abdominal hysterectomy) group, with a difference of -0.3% The proportion of patients with an intraoperative major complication [nine of 279 (3.2%)] was lower than the proportion with a postoperative major complication [32 of 279 (11.5%)] and did not differ between TLH and TAH. The proportion of patients with a minor complication was 13.0% (24 of 185) in the TLH group and 11.7% (11 of 94) in the TAH group. The results were that TLH (done by skilled surgeons) was beneficial in terms of a shorter hospital stay, less pain, and quicker resumption of daily activities [17].

In 2009, the American Journal of Obstetrics and Gynecology published "Laparoscopic surgery versus laparotomy for early stage endometrial cancer: long-term data of a randomized controlled trial". The purpose of the study was to compare the long-term safety and efficacy of laparoscopic surgery and laparotomy approaches to early stage endometrial cancer. This was a prospective long-term extension study of a randomized controlled study that included 84 patients with clinical stage I endometrial cancer (laparoscopic surgery group, 40 women; laparotomy group, 38 women). Safety and efficacy data were evaluated and analyzed following the intention-to-treat principle. After a follow-up period of 78 months for laparoscopic surgery and laparotomy groups, respectively, no difference in the cumulative recurrence rates [8/40 (20.0%) and 7/38 (18.4%); p = 0.860] and deaths [7/40 (17.5%) and 6/38 (15.8%) patients; p = 0.839] was detected between groups. No significant differences in overall (p = 0.535) and disease-free (p = 0.512) survival were observed. The laparoscopic surgery approach to early stage endometrial cancer is as safe and effective a procedure as the laparotomy approach [18].

Taking into consideration all of the above arguments if an experienced endoscopic surgeon and proper laparoscopic equipment are available, laparoscopy might become the method of choice for treatment of stage I endometrial cancer [9, 12, 16].

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