

Possibilities and limitation of endoscopic procedures in oncological gynaecology

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Summary

In cases of gynaecological cancer, the use of endoscopic techniques, in spite of becoming more frequent, is very controversial. Mainly, the potential risk of dissemination, which worsens the patient prognosis and leads to consequent adjuvant therapy is of concern. Based on data from the literature the authors present the advantages and disadvantages of using hysteroscopy in patients suffering from endometrial malignancy. According to the references and personal experience, the diagnostic and therapeutic value of laparoscopy in cases of cervical, endometrial and ovarian cancer are discussed.

Key words: Gynaecological oncology; Laparoscopy; Hysteroscopy.

Introduction

Laparoscopy and hysteroscopy are commonly used in gynaecological practice. Modern endoscopic equipment as well as high operator ability allow them to be an alternative to traditional surgery of non-malignant pathology. In cases of gynaecologic cancers, the use of endoscopic techniques, although becoming more frequent, causes much controversy. Mainly, those concerning the potential risk of dissemination, which worsens patient prognosis and leads to consequent adjuvant therapy [1-4]. The results of malignancy treatment are still unsatisfactory, thus the common use of hysteroscopy and laparoscopy in oncological patients seems to be doubtful and should not be recommended.

The role of hysteroscopy in oncological gynaecology

Since the 1970s, the risk of hysteroscopic dissemination of endometrial cancer has increased [5-7]. The distention media, especially fluids, irrigated under pressure into the uterine cavity causes the exfoliated endometrial cells to disperse through the oviducts into the abdominal cavity [5, 8]. This is not the only mechanism responsible for endometrial cancer retrograde seeding. Craesman and Leukeman [5] revealed positive swabs from the Douglas pouch after hysteroscopy in patients with previous bilateral salpingectomy or tubal ligation. According to Hyari *et al.* [9] positive peritoneal cytology in early stages of endometrial cancer does not seem to be an independent prognostic factor. The presence of isolated neoplastic cells in the abdominal cavity is transient and their malignancy potential low. Probably only certain adenocarcinoma strains (from adnexal and lymph node metastases) are able to form independent metastases [8-10]. This process has not been totally recognized, as in the current literature there are cases reported of abdominal dissemination Stage Ia endometrial cancer after hysteroscopy [8]. Therefore the use of hysteroscopy should be contraindicated in patients with recognized uterine malignancies (to obtain the preoperative staging) as well as in those with suspected cervical or massive intrauterine lesions, which can be sufficiently sampled on D&C. There are two indications for hysteroscopy in gynaecological oncology. One is recurrent abnormal uterine bleeding after curettage failure. In these cases demonstration of endoscopic malignancy is more important (it enables earlier treatment) than the risk of tumour cell dissemination during hysteroscopy. The second indication is evaluation of the effectiveness of radiation therapy in patients with a preserved uterus. The point of this procedure is to confirm or exclude the presence of persistent focal neoplastic lesions. The evidence of residual disease requires continuation of treatment. In those cases the risk of endometrial cancer abdominal spread is decreased. Radiation therapy consequences are uterine spiral arteries and fallopian tube obliteration. The additional assurance for hysteroscopy performance is that the use of carbon dioxide as distending medium under pressure does not exceed 70 mmHg [1].

The role of laparoscopy in oncological gynaecology

In cases of gynaecological cancers, laparoscopy carries a higher risk of abdominal dissemination than hysteroscopy. This fact is confirmed by the numerous reports describing trocar site recurrences, isolated pelvic or distant metastases and lymph node spread [11]. The dissemination process seems to occur regardless of the primary cancer site, its histological type, grading and clinical staging [2]. The following process is complex. The pneumoperitoneum causes "extensive mesothelial denudation with disruption of underlying connective tissue and cell separation" [12]. Neoplas-

tic tissues are more susceptible to carbon dioxide effects and trauma. This causes the partially exposed lymphovascular space to be more responsive as a cancer spread route [12]. Second of all, the conditions created at laparoscopy, i.e., temperature 36-37°C, carbon dioxide insufflation under pressure, high relative humidity (95%-100%) and the presence of blood in the operated area, are very similar to those in human cancer-derived cell lines [13]. Consequently, the gasless laparoscopy attempts carried out, peritoneal heparin and saline lavage, and adjuvant chemotherapy have not brought about the expected results [3, 14, 15].

Laparoscopy in ovarian cancer, regardless of the degree of clinical staging, is contraindicated. This procedure can contribute to disease progression and decrease the already poor results of treatment. Numerous publications confirm this thesis [3, 16-21]. Laparoscopy should only be used when an advanced stage of ovarian cancer with massive peritoneal carcinomatosis is suspected. Endoscopic biopsy enables histological diagnoses to be obtained when cytoreductive surgery is often impossible, thus allowing neoadjuvant chemotherapy to be initiated prior to the operative procedure [22].

The laparoscopic approach in association with vaginal hysterectomy in early stages of endometrial cancer is most often used for lymphadenectomy (iliac, obturator and aortal) [23]. Current data of such treatment demonstrated that five-year survival rates for Stage I patients are similar to traditional surgery [23]. At first this can fill bring about optimism but unfortunately port-site metastases even in Stage Ia adenocarcinoma seem to discredit the benefits and safety of endoscopic investigations [2, 24-27].

“The golden standard” for cervical cancer treatment is the Wertheim-Meigs operation [28, 29]. Only in young women with Stage IA2 disease if fertility is desired, is large cone biopsy or radical trachelectomy with concurrent laparoscopic pelvic lymphadenectomy recommended by FIGO [29]. Schalaerth *et al.* [30] consider that the endoscopic technique is not fully effective in lymph node dissection in about 15% cases. The lack of representative information on nodal status carries the risk of rejection of adjuvant radiotherapy. Lymph node metastases in cervical cancer Stage IA, G1 appear in 2.5% to 4% of cases [31].

The second doubt in the use of laparoscopy in cervical cancer is the possibility of intraperitoneal tumor dissemination. It is confirmed by multiple reports of trocar-site recurrences even in cases of cancer-free lymph nodes [2, 32-39]. Kohlbergher *et al.* [40] as well as Kadar [41] also described cases of port-site metastases, although the trocars were only used to insert endoscopic tools. The authors explained this process by the detachment and implantation of cervical cancer cells caused by uterine manipulations and the pneumoperitoneum.

That is why the question should be asked as to what is the most important factor for the surgeon in gynaecological malignancy? Is it the proof of his skills in using modern operating techniques or is it concern for patient well-being and survival rate? Can the size of abdominal incision and short hospital stay be compensation for the patient's life threatening concern of a neoplastic disease diagnosis?

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