

# Options for laparoscopic surgery in cervical carcinomas

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## Summary

The laparoscopy in vaginal surgical technique in the therapy of cervical cancer causes some scepticism. However the results, particularly for lymphadenectomy, are very interesting. Moreover laparoscopic staging of cervical cancer can also be recommended when preoperative chemotherapy is planned. Using the laparoscopic staging method the treatment of the patient may be more individualized.

*Key words:* Cervical cancer; Laparoscopy; Lymphadenectomy.

## Introduction

The gold standard for the operative therapy of cervical cancer for our generation is the "Wertheim-Operation". The laparoscopic-vaginal surgical technique in this area causes some scepticism. In reality the surgery of choice has been abdominal surgery for over 50 years, and superseded the previous standard, the so-called "Schauta operation". This procedure made the removal of the uterus with the parametria possible using the vaginal route. Unfortunately, using this approach there is no access to the lymph nodes. In the hands of experts of that time the Schauta operation showed better healing results than the Wertheim operation, at least in the stages with a minimal risk of the lymph nodes being affected [1]. For this reason there were further attempts and great effort used to preserve this vaginal radical surgery [2].

## Laparoscopic lymphadenectomy & radical vaginal hysterectomy

The development of laparoscopic lymphadenectomy [3-6] smoothed the course for the vaginal radical operation again. The oncological validity of laparoscopic lymphadenectomy has in the mean time been established. On average between 12.5 and 35 pelvic lymph nodes are removed. While through the expansion of pelvic lymphadenectomy and parametric lymphadenectomy the number of lymph nodes increases on average by 4.8 lymph nodes, the surgical time is not significantly lengthened. Still unanswered is the risk of spreading of tumour cells intraabdominally or in the trocar incision point when there is tumor infiltration or positive lymph nodes [7-9]. All lymph nodes must therefore be removed through an Endobag.

In the operative treatment of cervical cancer with a curative intention, the graded concept of radicality in the removal of the parametrium can be optimally converted through a combined laparoscopic-vaginal procedure: as the Wertheim operation and the Schauta operation to a large extent correspond to a type 2 radicality by Piver [10], the LAVRH type 2 (= laparoscopic lymphadenectomy & Schauta-Stoeckel operation) presents sufficient radicality for cervical cancers in Stage IB1 without risk factors. In other earlier stages (tumour smaller than 2 cm) a fertility preserving operation can be chosen. Since March 1997 we have performed radical trachelectomy with laparoscopic pelvic/parametric lymphadenectomy on 34 patients. Peri- and postoperative morbidity was limited to a postoperative haemorrhage which could be taken care of laparoscopically. No recurrence has been observed to date within our own patient group. This case series confirms that this procedure is a therapy option for patients with early cervical cancer and an existing desire to have children.

For larger tumours with a higher risk of lymph node/parametric affection we developed the laparoscopic radical vaginal hysterectomy type 3 which makes the removal of all the parametric tissue possible as with the Latzko-Mack-enrodt-Meigs operation [11, 12]. The radicality achieved here is suitable for cervical cancer in a primary Stage IB1 with risk factors (adenocarcinoma, L1,V1), IB2 and proximal IIB. This higher radicality is combined with a higher functional morbidity. We used the advantages of the magnifying effect of laparoscopy and refined this operative technique by emphasizing the value of revealing and preserving the Nervi splanchnici pelvini while removing both the cardinal ligaments: the patients operated on with this nerve sparing method had a significantly better bladder function than those operated on with the conventional procedure [13].

The oncological safety of the three methods needs to be evaluated by a longer observation time in a larger collective of patients.

## Laparoscopic staging of cervical cancer

While a long learning time is required to master the laparoscopic radical lymphadenectomy and the radical vaginal hysterectomy technique, the use of laparoscopy for staging of cervical cancer is easy and quick to learn and should thus find large place. Only the histological assessment of the expansion of a tumour gives a reliable report relating to prog-

nosis. Lymph node status and tumour infiltration in pelvic tissue and the neighbouring viscera are the most important prognostic parameters in cervical cancer. These parameters can be endoscopically evaluated with good reliability so that the therapy can be better adapted to the tumour and the patient is more involved in the decision. The histological results of the posterior bladder biopsy, of pelvic/para-aortal lymph nodes or of suspicious intraabdominal lesions help to make the decision whether surgery or radiochemotherapy is more appropriate. Furthermore, the extension of the operative procedure or the size of the radiation field can be individually adapted.

Laparoscopic staging with laparoscopic lymph node staging may lead to a change in the staging of larger tumours because computed tomography (CT) and magnetic resonance imaging (MRI) as indirect methods to prove lymph node metastasis have limited sensitivity [14-16]. When the extent of organ infiltration of the bladder and the rectum/Douglas is laparoscopically examined in comparison to the imaging techniques, MRI shows less sensitivity [17]: The laparoscopic evaluation of true tumour expansion in a series of 128 women with tumours > 4 cm in diameter led to a change in the therapeutic approach in 22.6% of the laparoscopically examined cases.

Laparoscopic staging can also be recommended when preoperative chemotherapy is planned because sometimes the tissue changes caused by the chemotherapy or radiochemotherapy may render the histologic diagnosis based on the frozen-section examination on biopsies or lymph node tissue obtained at the final operation doubtful.

When laparoscopy and histopathology prove tumour expansion into the neighbouring viscera or to the peritoneum it is possible to stop the operation and change to primary radiochemotherapy without disturbing the blood supply of the tumour. Such laparoscopic staging can be performed as out-patient care. After receiving the histological results further procedures can be planned directly with the patient and by omitting laparotomy, radiotherapy or radiochemotherapy can begin quickly without risking any side-effects of radiation due to extensive adhesions or wound healing disturbances.

Using this laparoscopic staging method, the therapy of the patient may be more individualized and not based on a purely clinical, but on a histopathological examination.

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