

Cervical cancer in pregnant women: Laparoscopic evaluation before delaying treatment

C. Stan¹, M.D.; E. Megevand¹, M.D.; O. Irion¹, M.D.; C. Wang¹, M.D.; I. Bruchim², M.D.;
P. Petignat^{1,3}, M.D.

¹Gynecologic Oncology and Senology Service, University Hospitals of Geneva, Geneva (Switzerland)

²Gynecologic Oncology Service, McGill University, Montreal; ³Gynecologic Oncology Service, University of Montreal, Montreal (Canada)

Summary

Background: Cervical carcinoma diagnosed during pregnancy generates conflicting concerns between control of malignancy and continuation of pregnancy.

Case: An invasive cervical carcinoma FIGO Stage IB2 was diagnosed in a 33-year-old primigravida during the first trimester of pregnancy. Because the patient strongly desired to preserve her pregnancy, laparoscopic lymphadenectomy was performed at 16 weeks of gestation to determine the extension of disease. Negative lymph node status was found and the patient was counseled about the possibility of proceeding until adequate fetal maturity had been achieved. An elective cesarean section and radical hysterectomy were performed at 36 weeks, followed by postoperative chemoradiation therapy. The clinical and Pap smear follow-up remain normal after four years.

Conclusion: Pregnant women diagnosed with early stage cervical carcinoma should receive a complete evaluation including lymphadenectomy before considering delayed therapy. This strategy seems to be an acceptable option in well-defined conditions, and offers these patients the possibility of maternity.

Key words: Cervical cancer; Laparoscopy; Pregnancy; Treatment delay.

Introduction

Cervical cancer is the most frequent gynecological malignancy diagnosed during pregnancy [1]. Pregnant women with invasive cervical carcinoma are faced with difficult decisions regarding the timing of the radical treatment and the outcome of pregnancy.

This case reports a woman presenting with early stage invasive cervical carcinoma in early pregnancy. Laparoscopic lymphadenectomy was performed to determine the extension of the disease and to provide a basis for decision-making and counseling the patient. To the best of our knowledge, this is the second reported case of laparoscopic evaluation for cervical cancer in a pregnant woman [2].

Case Report

Pap smear screening in a 33-year-old primigravida performed at the first prenatal visit in the first trimester of pregnancy showed a high-grade squamous intraepithelial lesion (HSIL). Personal history was not significant, except for smoking ten cigarettes/day for the previous 15 years. Colposcopy-directed punch biopsy confirmed a high-grade cervical intra-epithelial neoplasia (CIN3), but a more advanced lesion was suspected during the examination. Therefore, a diagnostic cone biopsy was performed (10 weeks) without any complications which showed a moderately differentiated invasive squamous cell carcinoma (SCC) with lymph vascular space involvement (LVSI) and positive margins. Pelvic examination revealed a gross tumor (4.5 cm) on the cervix without any vaginal or parametrial involvement palpable corresponding to FIGO Stage IB2 cervi-

cal cancer. A radical hysterectomy with adjuvant radiotherapy and termination of pregnancy was recommended to the patient. However, she strongly desired to delay the treatment until fetal viability, and she asked us for her chance to be cured. We explained that she had significant risk factors including large tumor size and LVSI, and we emphasized that lymph node status would be the most important predictive factor of survival.

Magnetic resonance imaging (MRI) was performed and showed no signs of loco-regional invasion or enlarged retroperitoneal lymph nodes. At 16 weeks of pregnancy the patient underwent laparoscopic pelvic lymphadenectomy. The laparoscopic trocar was inserted through the umbilicus using an open technique. During the operation only a slight Trendelenburg position was used to avoid uterine hypoperfusion. The heart rate of the fetus had been monitored just before surgery, and post-operatively she received close monitoring and no sign of preterm labor was observed. Seventy-two lymph nodes were removed and all were negative.

As there was no evidence of disease extension outside the cervix, and since the patient wanted to continue the pregnancy, it was decided to delay the radical treatment and continue pregnancy until fetal maturity. Corticosteroid for fetal pulmonary maturation was administered at 26 and 29 weeks. The pregnancy was uneventful and regular colposcopic exams did not show any significant local progression of disease. A healthy female baby was delivered by elective cesarean section at 36 weeks. Cesarean section was followed by total radical hysterectomy type III with left adnexectomy (ovarian cyst) and right oophorectomy. The local status in relation to the pregnancy did not complicate the radical operative procedure and the post-operative course was uncomplicated. Final histological diagnosis revealed SCC with LVSI and microscopic invasion of the parametria. She received adjuvant chemoradiation including external radiotherapy (50 Gy) combined with brachytherapy and concomitant weekly cisplatin (40 mg/m²). The adjuvant

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treatment was well tolerated with minimal side-effects. Regular clinical and cytological surveillance did not show any signs of recurrence four years after surgery.

Discussion

With a reported incidence of 1.6 to 10.6 cases per 10,000 pregnancies, cervical carcinoma is the most common gynecological malignancy diagnosed during pregnancy [1]. Early stages (IA and IB) are three times more frequent during pregnancy compared to non-pregnant women, probably because of screening opportunities during pregnancy [3].

Standard treatment for early stage cervical cancer in non-pregnant women consists of either surgery, including radical hysterectomy and bilateral pelvic lymphadenectomy or radiotherapy for early-stage disease, and chemoradiation for advanced disease. However, in a pregnant patient the options that can be considered are pregnancy termination with immediate treatment or pregnancy conservation with delayed treatment. Definition of what constitutes a significant treatment delay and what the delay effect is on disease outcome is not well defined. In our case, the delay from the diagnosis to treatment was 24 weeks and it seems it did not adversely affect the prognosis. According to the series with review of the literature of Takushi *et al.*, it appears that delaying treatment to allow fetal maturity does not significantly alter the prognosis of the disease [4]. It must be outlined however, that the published data should be interpreted within the limitations as they include only small series with a possible reporting bias. However at present, this is the only way to gain some insight into the effect of delayed treatment on maternal health. According to these data, for patients with FIGO Stages IA2-B who wish to continue the pregnancy until fetal maturity, this approach can be discussed as a possible option. However, these patients should be informed about the limited evidence evaluating this approach [5].

In our case, the patient had several adverse factors including a bulky tumor, presence of LVSI and residual disease on the cervix after the conization. However, we assumed that with a negative MRI result of the parametrium evaluation and a negative pelvic lymph node status, it could be presumed that the disease was limited to the cervix. In patients with lymph node metastasis, corresponding to advanced disease, there is more limited experience and published reports suggest worse prognosis; therefore in such cases, delaying treatment after the diagnosis is not recommended [6].

Previously, evaluation of pelvic lymph nodes during pregnancy was performed by laparotomy and to the best of our knowledge, only one case report has been published that showed that laparoscopic lymphadenectomy

of pelvic nodes is possible at 19 weeks of pregnancy [2]. Laparoscopic surgery during the second and third trimester of pregnancy requires a trained team. In our case, at 16 weeks of pregnancy, the surgery was performed with very little intraoperative uterine manipulation and we had no technical difficulties. In this case, the laparoscopy provided the opportunity for pelvic node and abdominal exploration and reliable information for counseling the patient about the prognosis of her disease.

It seems that the mode of delivery does not influence the outcome in patients with early stage cervical carcinoma. In the case of vaginal delivery, radical treatment is recommended within six to eight weeks postpartum. The risk of dissemination of tumoral cells is to date only theoretical, but several cases of tumor cell implantation in the episiotomy site after vaginal birth have been reported [6]. In patients, as in our case, with bulky or friable Stage IB2 carcinoma, there is a high risk of significant hemorrhage or dystocia and therefore we preferred cesarean section.

In conclusion, delaying treatment until fetal maturity is clearly not the standard approach. However, in patients with no evidence of disease outside the cervix and accepting some undefined, but likely small risk of progression, delaying treatment to achieve fetal maturity is a reasonable option.

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Address reprint requests to:
P. PETIGNAT, M.D.
Chum - Notre-Dame
1560, Sherbrooke Est.
Montréal, H2L 4M1 (Canada)