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A Case Report on Invasive Cervical Cancer Diagnosed in the Second Trimester of Pregnancy

Case Report

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Abstract

We present a case of a 37-year-old pregnant woman, at 17 weeks and 4 days of gestation, with mild vaginal bleeding and recurrent urinary retention and multidrug-resistant infections. An abnormal pelvic examination and ultrasound led us to find a large mass sized 11x8x5.6cm infiltrating the cervix, vagina, bladder, and parametrium, where the biopsy confirmed a squamous cell locally-advanced cervical carcinoma. Given the absence of lymph node or distant metastases, a multidisciplinary team discussed treatment options, offering in-utero feticide to allow prompt radio-chemotherapy vs. continuation of pregnancy with carboplatin-paclitaxel neoadjuvant chemotherapy until delivery. Although the patient chose the latter, the fetus developed severe intrauterine growth restriction and pre-eclampsia, subsequently leading to an emergency caesarean section due to an abruption placentae at 27 weeks and 5 days. Postpartum, the patient developed pulmonary metastases and was started on chemotherapy, and currently, four months into treatment, her prognosis remains poor. This case highlights the challenges in managing cervical cancer during pregnancy, with no gold standard treatment guidelines available. Management must be individualized taking into consideration the gestational age, stage of cancer, histological subtype, metastases and desire to preserve pregnancy.

Keywords: Cervical Cancer, Pregnancy, Neoadjuvant Chemotherapy, Pelvic Mass, Vaginal Bleeding, Urinary Retention, Intrauterine Growth Restriction, Termination of Pregnancy

Abbreviations

G5P4: Gravidity 5, Parity 4; NACT: Neoadjuvant Chemotherapy; C-section: Caesarean Section; IUGR: Intrauterine Growth Restriction; TOP: Termination of Pregnancy

Introduction

By presenting a case report on a patient diagnosed with locally-advanced invasive cervical carcinoma during the second trimester of her pregnancy, our objective is to evaluate the correct management considering there is no optimal treatment given its rarity, and absence of clinical trials and prospective studies.

Case Report

We present a case of a 37-year-old pregnant woman, at 17 weeks and 4 days of gestation, G5P4 (gravidity 5, parity 4), who attended our hospital due to mild vaginal bleeding and urinary retention. She had consulted twice in the last three months for the same reason, needing intermittent bladder drainage and antibiotics due to secondary urinary tract infections. Her medical history included a recent kidney ultrasound and cystoscopy where no abnormalities were found, a pelvic scan right before pregnancy that reflected a diffuse uterine adenomyosis and a negative Pap smear test a year prior. Cervix visualization and bimanual pelvic examination were difficult due to increased resistance, induration and irregularity of anterior vaginal wall that extended until the cervical lip. The ultrasound showed a 17-week fetus with good vitality but reduced amniotic fluid volume. An unspecific irregular mass was observed between the cervix, vagina and posterior wall of the bladder (Figure 1) and a urine culture showed a multidrug-resistant carbapenem-sensitive Klebsiella pneumoniae.

Given the medical history of the patient, our first suspicion was deep pelvic endometriosis, however, the MRI showed a large pelvic mass measuring 11x8x5.6cm centered on the anterior cervical lip that extended to the lower third and anterior wall of the vagina, posterior wall of the bladder and parametrium. Bilateral hydronephrosis was also found as a result of ureteral obstruction, requiring bilateral nephrostomy (Figures 2 and 3). An urgent colposcopy and biopsy revealed an HPV-negative, moderately-differentiated, p16-positive, squamous cell cervical carcinoma. As the PET/CT scan showed no other metastatic sites, the patient was diagnosed with stage 4 locally-advanced cervical cancer.

By this point, the patient was 24 weeks pregnant and was reviewed by a multidisciplinary team including gynecologists, oncologists,

radiologists, urologists and neonatologists. On one hand, she was offered in-utero feticide due to maternal disease allowing prompt radio-chemotherapy, leaving fetus extraction after correct response and potential vaginal access; on the other hand, she was offered to continue with her pregnancy introducing two cycles of neoadjuvant chemotherapy (NACT) with Carboplatin-Paclitaxel, followed by a caesarean section (C-section) via fundus-corporal incision and then radio-chemotherapy. The patient chose to preserve the gestation, however, the pregnancy started to deteriorate, observing mild pre-eclampsia, severe intrauterine growth restriction (IUGR; 1st percentile), middle cerebral artery vasodilation and anamnios. An abruption placentae at 27 weeks and 5 days lead to an urgent C-section with extraction of a healthy baby that weighed 950g. After full postoperative recovery, the patient was diagnosed with multiple pulmonary metastases and was started on chemotherapy. She has been undergoing treatment for the past four months and continues to have a poor prognosis.

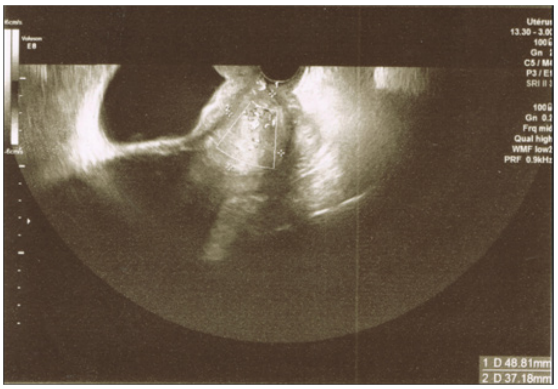

Figure 1: First ultrasound image taken in the Emergency Department

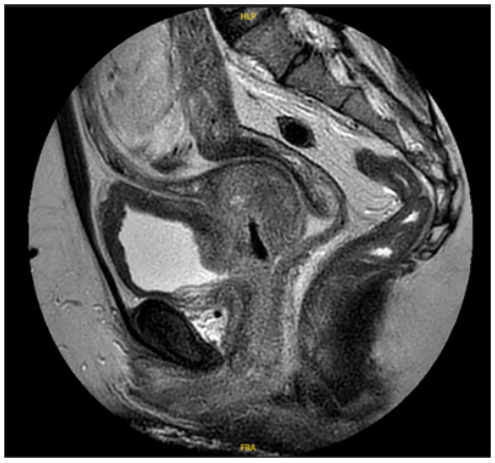

Figure 2: Sagittal view of MRI scan

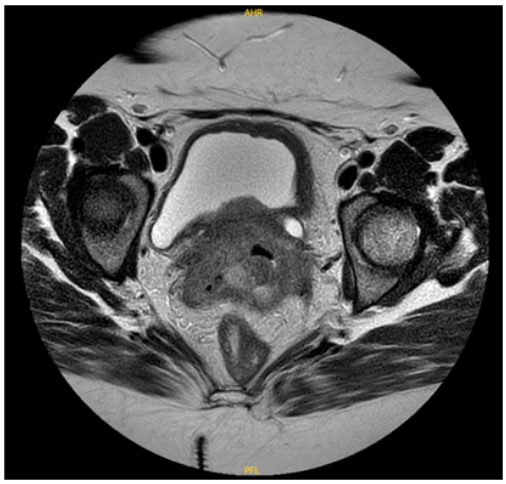

Figure 3: Transverse view of MRI scan

Discussion

Although cervical cancer is a rare condition, it is one of the most frequent cancers diagnosed in pregnancies (0.1-1.2 per 10000 births) [1]. More than 70% of the cases are found in screening programs and hence at an early stage of disease[2]. Patients are initially asymptomatic, occasionally presenting abnormal post-coital bleeding, irregular leukorrhea or dyspareunia, whereas in advanced stages, urinary dysfunction, pelvic and back pain, changes in bowel habit, and swelling of legs can be reported[3]. The management of cervical cancer depends fundamentally on the gestational age at the time of diagnosis, stage of the disease, tumor size, histological subtype, nodal or distant metastases and desire to continue pregnancy[3,4]. For women who prefer termination of pregnancy (TOP), the approach is the same as for non-pregnant women; yet for those who prefer to preserve their baby, the management varies. For pregnancies below 22-25 weeks, a diagnostic conization at stage IAI and a large conization or simple trachelectomy at stages IA2 and IBI are sufficient. Over 22-25 weeks, from stages IA to IB1, the treatment can be postponed until after delivery if the tumor is less than 2cm. However, if the tumor is larger than 2cm, no matter what the gestational age, studies recommend initiating neoadjuvant cisplatin-paclitaxel chemotherapy every three weeks until delivery. If lymph node involvement or distant metastases are found in MRI, PET/CT scans or surgical staging, the poor prognosis should be explained to the patient and TOP may be recommended in order to initiate treatment right away. If she chooses to continue with the pregnancy anyway, management should be individualized, based on the term, where options include NACT until delivery, though some prefer to end the pregnancy once fetal maturity and viability are reached[3]. The regimen of choice for NACT is cisplatin, or even carboplatin, plus paclitaxel administered every three weeks for a maximum of six cycles. This stabilizes the tumor, controls the disease, prevents dissemination, and postpones premature delivery[5]. Ideally three weeks must pass between the last cycle and childbirth[6,7]. Radiotherapy and immunotherapy are contraindicated given the increased risk of miscarriage and fetal harm[2]. Concerning the mode of delivery for stage IA, vaginal birth is possible if conization margins are negative. In advanced stages, a C-section with a vertical incision at 35-37 weeks is preferred, as vaginal delivery risks laceration, excessive bleeding, and cancer dissemination[8].

Our objective is to evaluate how we could have improved our management. The patient's medical history initially suggested deep pelvic endometriosis, leading to a delayed cancer diagnosis. In addition, the patient could have started NACT directly at 24 weeks, but while platinum-based chemotherapy is shown to be safe in second and third trimesters, it risks IUGR, prematurity, and low birth weight, worsening the already poor obstetric prognosis as the fetus was in the first percentile[9,10]. It could be argued that TOP and starting radio-chemotherapy immediately might have been more effective, but we had to respect the patient's autonomy to continue with her pregnancy[11]. If the diagnosis had occurred in the first or early second trimester, the patient might have more easily chosen to carry out an abortion, especially since chemotherapy in the first trimester can cause fetal loss and malformations[6,9]. A third-trimester diagnosis could have allowed a planned C-section followed by immediate treatment, increasing survival expectancy. The challenge with the second trimester is that the pregnancy is advanced enough for the patient to want to continue but still too premature for delivery[3].

Conclusion

The management of invasive cervical cancer during pregnancy must be reviewed by a multidisciplinary team, considering the gestational age, stage of cancer, histological subtype, metastases and desire to preserve pregnancy. The clinical approach must be individualized as there is no gold standard treatment given the absence of prospective studies and clinical trials[3]. Starting chemotherapy during pregnancy can help control the disease until delivery, but risks like prematurity, IUGR, and low birth weight must be balanced against prolonging maternal survival, potentially delaying treatment until after childbirth[9,11]. Therefore, the objective is to optimize the treatment for the mother while also ensuring the best possible survival and wellbeing for the fetus[3].

Acknowledgement

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Conflict of Interest

The authors declare that they have no conflict of interest.

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