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Management of Pregnancy in a Patient with a History of Cervical Cancer: Case Report

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ABSTRACT

Cervical cancer is one of the most common malignancies affecting women of reproductive age. Although surgical procedures such as conization or trachelectomy may offer the possibility of preserving fertility, they may also compromise cervical integrity, thereby increasing the risk of obstetric complications in subsequent pregnancies.

This case report presents the management of a pregnant patient with a history of cervical cancer, thyroid dysfunction, and previous obstetric complications. The patient, a 38-year-old woman, conceived naturally after previous in vitro fertilization (IVF) attempts. Despite a complex medical history, including two prior cervical conizations for stage IA1 G1 cervical glandular carcinoma, the patient underwent successful antenatal care, delivery, and postnatal management. This report highlights the multidisciplinary approach and challenges encountered in managing pregnancies in patients with a history of cervical cancer and previous obstetric complications.

Keywords: cervical cancer, pregnancy, cervical insufficiency

INTRODUCTION

Cervical cancer represents a significant cause of cancer-related mortality among women of childbearing age. Therefore, it is important to identify patients diagnosed with a gynecological malignancy who are eligible for fertility-sparing treatment (FST) which aim to maintain fertility while providing oncologic safety comparable to that of radical surgery. For early-stage cervical cancer, fertility-preserving options include conservative procedures such as electrosurgical excision procedure (LEEP), cold knife conization and simple vaginal trachelectomy as well as radical trachelectomy which can be employed in women planning future pregnancies (1, 2, 3, 4). For patients who require a hysterectomy or radiation, a further option for having biological offspring is a simple hysterectomy with ovarian preservation, followed by the use of artificial reproduction techniques and pregnancy by surrogacy (2, 5). However, it is important to acknowledge that these treatments are associated with a reduction in fertility and an increased likelihood of complications during pregnancy. These include cervical stenosis, cervical insufficiency resulting in spontaneous abortions or preterm labor, preterm premature rupture of membranes (PPROM), and chorioamnionitis. Consequently, they are considered high-risk pregnancies necessitating close monitoring and careful management of both the mother and the fetus (1, 2, 4).

A number of strategies have been proposed as a preventative measure against the incidence of pregnancy-related complications. These include the prophylactic cervical cerclage or cervix occlusion with vaginal mucosa, also known as the Saling procedure. The use of pharmacotherapy for the purpose of preventing complications during pregnancy includes the administration of vaginal progesterone supplementation to patients with a shortened cervix. This approach has been demonstrated to reduce the likelihood of preterm birth. Some studies recommend screening for bacterial vaginosis and prophylactic antibiotic administration, given the potential association between this condition and PPROM and preterm labor. However, the efficacy of this strategy remains unproven. Transvaginal ultrasonography represents a valuable diagnostic tool for monitoring cervical insufficiency and determining the optimal further management. An additional method for predicting the risk of preterm labor is quantitative fetal fibronectin testing from a vaginal swab.

Although vaginal delivery remains a viable option for patients who have undergone conization or simple trachelectomy and have experienced an uncomplicated pregnancy, it is advised that a cesarean section should be performed in patients with a history of radical trachelectomy or obstetric complications. (5, 6) Despite the existence of multiple management strategies of pregnancies following FST, there is currently a lack of established guidelines. It is therefore necessary to encourage further research to identify the optimal strategy for reducing the potential complications associated with these high-risk pregnancies (6).

CASE PRESENTATION

The patient, a 38-year-old female, presented with a singleton pregnancy at 7 weeks gestation. The patient had a history of cervical cancer, diagnosed three years prior, and had undergone two cervical conization for glandular cervical cancer (IA1 G1). The patient's obstetric history involved three pregnancies, with the second one resulting in a late spontaneous miscarriage and the third in a cesarean section at 32 weeks due to premature rupture of the membranes, intrauterine infection, and fetal distress. Additionally, the patient had a medical history of thyroid dysfunction managed with levothyroxine therapy. Antenatal monitoring revealed no significant abnormalities, with regular fetal movements observed.

The patient was provided with multidisciplinary care, including collaboration with obstetricians, oncologists, and endocrinologists. Throughout the course of the pregnancy, regular ultrasound assessments were conducted, every three to four weeks, in order to

evaluate the condition of the cervix and ascertain whether there was any evidence of cervical insufficiency.

A transvaginal ultrasound performed at 14 weeks gestation revealed a cervical length of 22 mm. Consequently, the patient was prescribed lutein sublingually. It was advised that the patient adopt a regimen of minimal physical exertion and sexual abstinence. An ultrasound examination conducted at 18 weeks revealed a cervical length of 20 mm. In the same week, a cervical cerclage was performed using the McDonald technique due to the presence of cervical insufficiency. The suture was subsequently removed at 37 weeks. A colposcopic examination revealed the post-treatment status of cervical cancer with cervical amputation, without signs of dysplasia. Cervical cytology and human papillomavirus (HPV) testing were repeated during pregnancy to screen for disease recurrence. Additionally, maternal thyroid function and nutritional status were closely monitored due to their potential impact on pregnancy outcomes. The patient received thyroid hormone replacement therapy and anticoagulation prophylaxis due to her history of thyroid dysfunction and previous cesarean section. Serial ultrasound scans were conducted to monitor fetal growth and amniotic fluid volume.

The patient underwent an elective cesarean section at 39 weeks gestation due to concerns regarding cervical incompetence and patient's complex obstetric history. During the surgical procedure, an obstruction of the cervical canal was observed, with a membrane approximately 3-4 mm thick sealing the canal. Despite repeated attempts, the canal remained obstructed. A bimanual examination via the vaginal and abdominal routes revealed a cervical stump measuring approximately 0.5 cm in length with a pinpoint opening of 3-4 mm. Dilatation of the cervical stump canal was initiated using Hegar dilators, progressing from size 2 to size 7.5. The surgical procedure was completed without further complications, resulting in the delivery of a healthy newborn with an Apgar score of 10.

The newborn stayed in the neonatal ward, receiving prophylactic treatment for neonatal conjunctivitis, as well as intramuscular administration of vitamin K (1 mg). Routine vaccinations against hepatitis B and tuberculosis (BCG) were administered according to the recommended schedule. Transcutaneous bilirubin measurements were within the normal range, and phototherapy was not required for neonatal jaundice. Newborn screening tests, including auditory screening and pulse oximetry, were performed and yielded normal results. The infant remained in good overall condition throughout the duration of the hospital stay and was discharged home on the fourth day of life.

CONCLUSION

Despite the challenges posed by a history of cervical cancer, successful pregnancies can be achieved with multidisciplinary approach and individualized care. Close surveillance for obstetric complications, including cervical insufficiency and preterm labor, is crucial to optimizing maternal and fetal outcomes. Additionally, ongoing monitoring for disease recurrence and long-term follow-up are essential for the early detection and management of cervical neoplasia. This case study demonstrates the successful management of a high-risk pregnancy in a patient with a history of cervical cancer and prior obstetric complications. The patient underwent a series of transvaginal ultrasounds to evaluate the length of the cervix, received a cervical cerclage, and was administered lutein to assist in the prevention of preterm labor. The collaborative efforts of various medical specialties contributed to a positive outcome, emphasizing the significance of individualized care in complex obstetric cases. Continued follow-up is essential to monitor the long-term health of both the mother and the newborn.

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