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Case Report

Cervical cancer in pregnancy: a case report

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ABSTRACT

Cancers during pregnancy are uncommon, with the latest mothers and babies: reducing risk through audits and confidential enquiries across the UK (MBRRACE) report (2023) indicating cancers account for 2% of maternal deaths, highlighting the need for early detection. Cervical cancer, the most common gynecological malignancy in pregnancy, has an incidence of 0.1 to 12.0 per 10,000 pregnancies. The human papillomavirus (HPV) vaccination is expected to significantly reduce cervical cancer rates. We present a case of a 37-year-old multiparous woman with cervical cancer who declined investigations during pregnancy. A white-British woman in her mid-30s presented at 19 weeks gestation with vaginal bleeding. She had low compliance with cervical screening. Despite multiple referrals, she declined urgent colposcopy. At 38 weeks, she had a spontaneous rupture of membranes but did not progress in labor. A cesarean section revealed no tumor in the lower segment. Postnatal examination identified invasive cervical cancer extending to the anterior vagina. Magnetic resonance imaging (MRI) and positron emission tomography-computed tomography (PET-CT) confirmed stage IIIC1r cervical cancer. The patient underwent successful cisplatin-based chemoradiotherapy and was tumor-free at the three-month review. Cervical screening is crucial for early cancer detection and intervention. Reduced participation in screening programs increases the incidence of advanced-stage cervical cancer. Managing patients who decline screening requires a compassionate approach and strategic efforts to encourage compliance. Physiological changes during pregnancy can obscure cancer symptoms, leading to delayed diagnoses and limited treatment options due to fetal risks. Advanced cervical cancer treatment during pregnancy often involves chemotherapy, with radical surgery considered for patients responding well to induction chemotherapy. Evolving follow-up strategies suggest prolonged monitoring due to delayed recurrences when chemotherapy is incorporated.

Keywords: Cervical cancer, Pregnancy, Maternal health, Obstetrics, Gynecology

INTRODUCTION

Cancers during pregnancy are rare, with most clinicians encountering only a few cases in their careers. According to the latest mothers and babies: reducing risk through audits and confidential enquiries across the UK (MBRRACE) report from 2023, cancers were responsible for 2 percent of maternal deaths.[1] This alarming statistic highlights the critical need for early cancer detection and intervention during pregnancy and the postnatal period. Antenatal detection of cancers is often missed, with most diagnosed following childbirth.[1] Cervical cancer is the most common gynecological malignancy diagnosed during pregnancy, with an incidence rate ranging from 0.1 to 12.0 per 10,000 pregnancies.[2] The epidemiology of cervical cancer is expected to shift following the introduction of the human papillomavirus (HPV) vaccination for school children in 2008. This vaccination is projected to reduce cervical cancer rates by up to 55% in women aged 25–29 years, with the peak age of diagnosis shifting from 25–29 years in 2011–2015 to 55–59 years in 2036–2040[2]. Here, we present a case involving a 37-year-old multiparous woman with cervical cancer who declined investigations during pregnancy. This case is discussed from an obstetrician and gynaecologist's perspective.

CASE REPORT

A parous white-British woman in her mid-30s presented for emergency maternity assessment with vaginal bleeding at 19 weeks gestation. She had no other significant medical issues. Gynaecological history revealed low compliance with cervical screening and was not up-to-date with her smears. She was a non-smoker, and did not consume alcohol. There was no family history of cancer. Vital signs were normal. The placenta was located posteriorly and high. A chaperoned speculum examination was carried out with consent. Cervix was not visualised because of laxed vaginal walls; there was a foul-smelling serous discharge. She was referred for urgent colposcopy. That appointment was declined as well as repeated subsequent appointments. Swabs taken at the speculum examination showed no bacterial growth,

At 38 weeks gestation, she experienced a spontaneous rupture of membranes but did not progress in labor. Examination revealed a completely cicatrized cervix with no signs of proliferative growth or parametrial and/or rectal spread. She underwent a caesarean section, which showed no tumor in the lower segment and no evidence of peritoneal metastases or involvement of other pelvic organs. Peritoneal fluid was sent for cytology. Postnatal examination in the colposcopy clinic revealed invasion of the anterior vagina up to the middle third, with no invasion of the lower third vagina. The cancer extended to within 4 cm of the introitus.

Figure 1: MRI of pelvis - bulky disease >4 cm replacing the cervix with involvement of upper third of the vaginal canal and parametrial invasion.

A postoperative magnetic resonance imaging (MRI) revealed a 55 mm mass extending into the lower myometrium, the upper third of the vagina, and bilateral parametria. The mass was in contact with the mesorectal fascia, and a 6 mm lymph node in the mesorectal fat appeared suspicious for involvement. Bilateral external iliac lymph nodes were enlarged on MRI, and a positron emission tomography-computed tomography (PET-CT) scan confirmed these were fluoro-2-deoxy-D-glucose (FDG) avid. Tissue biopsy confirmed grade 3, HPV-associated, poorly differentiated squamous cell carcinoma of the cervix, positive for P16 and negative for ER. A smear taken at that time showed high-risk HPV. Radiological staging was Stage IIIC1r. The patient remained well throughout this period and underwent cisplatin-based chemoradiotherapy as recommended after gynae oncology multi-disciplinary team discussion. She was tumor free at her three-month review scan.

DISCUSSION

Cervical screening is essential for the early detection of pre-cancerous changes and cervical cancer, allowing for timely intervention and significantly improved outcomes. Reduced participation in screening programs can lead to an increase in undiagnosed and untreated cases, resulting in higher incidences of advanced-stage cervical cancer, which are more difficult and costly to treat and have lower survival rates. In this era of stringent cervical screening protocols, there remain individuals who do not participate in regular screening. Dealing with a difficult patient who declines cervical screening requires a compassionate and strategic approach. Our continuous efforts and adaptability to the patient's needs were key in getting the patient to attend the colposcopy, which ultimately led us to obtain a diagnosis. If the cervix cannot be visualized, an immediate referral for colposcopy is essential, and if cancer is suspected, a colposcopy-guided biopsy, which can be performed at any stage of pregnancy, is warranted.

For the British Gynaecological Cancer Society recommends that more advanced cervical cancer, particularly bulky stage IIB or higher stages, initial chemotherapy is typically recommended.[3] However, long-term remission or cure is rare. Most centres use either cisplatin or carboplatin combined with etoposide, administering 4 to 6 cycles of chemotherapy at three-week intervals. Patients showing a very good response to induction chemotherapy, with tumor shrinkage to less than 4 cm and no evidence of distant metastatic disease, should be discussed at a multidisciplinary team (MDT) meeting to consider the potential for radical hysterectomy and lymph node dissection. A follow-up FDG PET scan is advisable before pursuing radical surgery. These patients will then require postoperative adjuvant radiation.[3,4]

Follow-up can be clinical, imaging-based, or biochemical and may be led by a gynecological oncologist or a clinical oncologist at a specialist cancer center, or by a general gynecologist at a district general hospital, or through shared care. The purposes of follow-up are to detect recurrence and provide appropriate salvage treatment, and to monitor for toxicities, especially with new treatments or techniques. Follow-up also offers an opportunity for patients to receive support and counselling, particularly for psycho-sexual issues.

Traditionally, most recurrences were thought to occur within the first two years following definitive treatment, but recent evidence suggests that recurrences may be delayed when chemotherapy is incorporated into the

treatment. Patients receiving concomitant cisplatin-based chemotherapy have better outcomes than those treated with radiation alone, with recurrences more frequently documented after the second year.[5] This has significant implications for follow-up strategies, as historically closer monitoring occurred in the first two years, but now patients may require more frequent and prolonged follow-up.[6] For women deciding to continue with the pregnancy, individualized treatment should be applied, the timing of termination of pregnancy and the treatment protocol of cervical cancer can be determined according to disease stage and gestational age.[7,8]

CONCLUSION

Death related to malignancy is a form of indirect maternal death. Among women who died between six weeks and one-year post-pregnancy in the UK from 2019 to 2021, 6% had cancer. The latest MBRRACE report notes that a significant number of cancer cases were diagnosed late, frequently at advanced stages, which adversely affects prognosis and treatment outcomes. Antenatal detection of cancers is often missed, with most diagnosed following childbirth. Detecting and treating cervical cancer during the antenatal periods present unique challenges. Physiological changes in pregnancy can obscure cancer symptoms, leading to delayed diagnosis. Common pregnancy-related symptoms such as fatigue, pelvic pain, and vaginal bleeding can mimic those of cervical cancer, complicating early detection. Diagnostic procedures, like biopsies or imaging, may carry risks for the fetus, necessitating careful consideration and often causing further delays. Additionally, treatment options are limited during pregnancy due to potential harm to the developing baby which complicates the situation for the woman as she faces the challenging decision of prioritizing her own health over the well-being of her child.

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