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Invasive cervical cancer in pregnancy

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Detection of invasive cervical cancer during pregnancy is rare, with reported incidence rates ranging from 0.05% to 0.1%. However, cervical cancer is one of the most common malignancies diagnosed during pregnancy.

The management of invasive cervical cancer in pregnancy is extremely challenging and requires a multidisciplinary team approach to optimise the treatment for the patient by simultaneously providing the best chance of survival for the foetus. The approach is based mainly on the following factors: gestational age at the time of the diagnosis, stage, histological subtype, desire regarding fertility and quality of life.

The gold standard treatment for this condition in pregnancy is not yet established. This is due to the absence of prospective studies and clinical trials. Therefore, its management presents a dilemma that requires individualisation of care. The various factors that need to be considered for obtaining a good outcome for both mother and child are described in this study.

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Diagnosis

Signs and symptoms

The symptoms of invasive cervical cancer depend mainly on the clinical stage and size of the tumour. With the advent of screening, most cancers are diagnosed at an early stage with a small disease volume. Two-thirds of cancers diagnosed during the first two trimesters are stage 1B tumours [1,2]. However, pregnancy can either simulate or mask the diagnosis of most of them, hence complicating the process [3]. In the early stages of the disease, women are generally asymptomatic; therefore, the diagnosis becomes an incidental finding during routine pelvic examination or cytological investigations. Early stages of cervical cancer can sometimes present with abnormal bleeding, unusual or unpleasant vaginal discharge, post-coital bleeding and dyspareunia, whereas in advanced stages, urinary dysfunction, pelvic pain, changes in bowel habit, back pain and swelling of legs are also reported [4,5].

Pelvic examination

When a cervical abnormality is suspected, an accurate pelvic examination (speculum and bimanual examination) needs to be performed, regardless of gestational age. In speculum examination, the clinician assesses bleeding, abnormal discharge and vault/cervical lesions. Size, shape and consistency of the cervix and/or cervical lesions are assessed during the bimanual examination.

However, because of physiological cervical ectopy, cervical assessment can be more challenging in pregnant women than their non-pregnant counterparts. Exophytic, friable, necrotic and cervical lesions that bleed easily are to be considered suspicious and require further investigation.

Obstetricians should be involved in the gynaecological oncology team when relevant lesions are detected during the examination. Careful biopsy should be considered if any doubt arises about the nature of a cervical lesion.

Cytology

A woman's cervical cytology history should be investigated when a cancer is suspected. A smear test needs to be performed when she could not provide clear data. For this reason, clinics in some developed countries perform cervical cytology as a routine assessment during the first antenatal visit, which could provide a gynaecological assessment for irregularly followed up women.

However, it is more difficult to interpret cervical cytology during pregnancy [6], as the Arias-Stella phenomenon and the hyperplastic epithelium, which are common features of pregnancy, can simulate malignant changes. An abnormal smear test should alert the obstetrician, and a gynaecological oncology referral and/or colposcopy follow-up should be organised [7].

Colposcopy

The colposcopic assessment includes a full lower genital tract examination of women. However, it differs between pregnant and non-pregnant women for several reasons.

The hormonal changes, on the one hand, make the cervix hypertrophic and hyperplastic, which results in eversion of the columnar epithelium. Hence, the transformation zone is clearly visible in 90–100% of the patients [8].

On the other hand, these changes lead to decidualisation of the cervical stroma, which becomes prominent and causes densely opaque aceto-white lesions. The physiological ectropion and the consequent exposure to the vaginal pH can cause squamous metaplasia. All these physiological changes could be misinterpreted as dysplasia.

Colposcopic features of invasive cancer are similar for both pregnant and non-pregnant women. These include abnormal vessels, irregular surface and complex patterns, such as mosaicism or punctation. Biopsies performed during colposcopic examination are considered safe for the foetus in all the trimesters and reliable for diagnosis. However, it is recommended that any type of invasive procedure