Small-Cell Carcinoma of the Cervix at 23 Weeks Gestation

A 26-year-old primigravida with no significant past medical history presented at 23 weeks gestation with a history of a watery vaginal discharge of 1 month’s duration. Speculum examination revealed a polypoid mass in the cervix. Magnetic resonance imaging (MRI) of the lesion showed a large, exophytic, macrolobulated mass surrounding the cervix and distending the vagina measuring 9.4 × 4.6 × 9 cm. It did not appear to invade the adjacent fat or vaginal wall (Fig 1). MRI of the abdomen showed a normal liver and no evidence of retroperitoneal or paraortic lymphadenopathy. Low-dose computed tomography of the thorax showed normal lung fields and mediastinum, and no sclerotic or lytic bony lesions. After a biopsy, the mass was shown to consist of sheets of small, densely packed cells, with hyperchromatic nuclei and a high nuclear-to-cytoplasmic ratio consistent with a small-cell carcinoma (Fig 2). Neuroendocrine origin was confirmed with staining for synaptophysin (Fig 3) and chromogranin (Fig 4). A diagnosis of small-cell carcinoma of the cervix in association with pregnancy was made. As the patient wished to maintain her pregnancy and was at 23 weeks gestation, a decision was made to proceed with neoadjuvant chemotherapy with adriamycin (60 mg/m²) and cyclophosphamide (600 mg/m²) intravenously every 21 days, which was given for three cycles without adverse effects. Repeat MRI showed a significant decrease in tumor volume by 85% with a maximum tumor diameter of 2.8 cm (Fig 5). This was confirmed on clinical examination. A fourth cycle of chemotherapy was deferred due to the onset of mild intrauterine growth retardation in the fetus. The patient underwent delivery of a healthy 6-pound baby boy by elective Cesarian section at 35 weeks gestation. After delivery, the patient subsequently underwent four cycles of platinum and etoposide–based chemotherapy with good clinical and radiologic response in the pelvis and showing no evidence of metastatic spread. She is currently undergoing definitive local treatment with pelvic radiation.
Neuroendocrine tumors of the cervix are rare, accounting for fewer than 2% of all cervical malignancies. The most common of these is small-cell carcinoma of the cervix, which has an annual incidence of 0.06 per 100,000 women, compared with 6.6 per 100,000 women for squamous cell carcinoma. Small-cell carcinoma of the cervix behaves in a similar manner to small-cell lung carcinoma, with vascular invasion common, and death most likely due to hematogenous spread and distant metastases. Three-year overall survival ranges from 29% to 60% in series with multimodality therapy with the highest survival in those treated with combined chemotherapy and local treatment (eg, surgery, radiation, or both). Neuroendocrine tumors of the cervix occurring during pregnancy are extremely rare, with a small number of cases reported in the literature. This patient presented at 23 weeks gestation and wished to continue with her pregnancy. The most commonly used drugs in small-cell carcinoma are platinum compounds and etoposide. There exists only limited evidence for the safe use of these drugs in pregnancy. However, adriamycin and cyclophosphamide, as the major components of the regimen vincristine, adriamycin, and cyclophosphamide have comparable efficacy in the treatment of small-cell lung carcinoma when compared with the platinum and etoposide regimen. There is also significant experience in the use of these agents as the adriamycin and cyclophosphamide regimen in pregnant women who have breast cancer. This regimen may be given safely with no short- or long-term effects to the fetus once the mother has reached the second trimester of pregnancy. This case illustrates some of the complexities of cancer diagnosis, staging, and treatment during pregnancy, in addition to the successful treatment of a small-cell carcinoma of the cervix with two sequential chemotherapy regimens.

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REFERENCES


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