Mini Review Article

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Cancer in Female Reproductive System in Pregnancy

Abstract

One in a thousand pregnancies is complicated by cancer. There should be a multidisciplinary consensus meeting with representatives from maternal-fetal medicine, pathology, neonatology, radiology, anesthesiology, and social work. Cervical cancer screening during pregnancy is possible, and purposeful treatment delays are allowed for early-stage carcinoma. When there are gross lesions present, vaginal delivery is not advised; instead, radical hysterectomy with lymphadenectomy during caesarean delivery is advised. Women with locally advanced disease should start receiving systemic therapy and chemotherapy as soon as they are diagnosed, respectively. In some circumstances, neoadjuvant chemotherapy to allow for gestational advancement may be explored. The majority of benign adnexal lumps disappear within the second trimester. Conservative management is appropriate for persistent, asymptomatic, benign-appearing masses; surgery, if necessary, is best postponed for 15-20 weeks, with laparoscopy.

Keywords: Cancer • Maternal fetal medicine • Neonatology • Anesthesiology • Lymphadenectomy • Caesarean delivery

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Introduction

An estimated 1 in 1000 pregnancies are complicated by cancer. Over the past few decades, there has been a steady rise in the birthrate among women who are older than 30. The rare and difficult situation of cancer in pregnancy is becoming comparatively more prevalent as the frequency of various cancers starts to climb throughout the fourth decade of life. The most typical tumours discovered during pregnancy are gynecologic malignancies, along with breast and hematopoietic malignancies. Pregnancy physiology, dynamic anatomy, and foetal factors must all be carefully considered when making decisions about the diagnosis and treatment of malignancies during pregnancy. Clinicians can discover advice in the growing corpus of research on cancer in pregnancy to help them achieve great oncologic and safe obstetric outcomes [1].

Cervical Dysplasia

Pregnancy related cervical alterations

The cervix changes throughout pregnancy, both visibly and when observed via a colposcopy. During pregnancy, hyperestrogenism causes an increase in cervical volume. Acetic acid intensifies the blue tint that hypervascularity creates. At the conclusion of the first trimester, areas of fusion between columnar villa and immature metaplastic epithelium are noticeable. Stromal edemas, glandular structure growth, inflammation, and stromal decidualization—all benign processes—might seem worrisome in the second and third trimesters. The Dr. Javier Arias-Stella reaction, which he defined in 1954 as an endometrial alteration brought on by trophoblasts and hormonal changes, may mimic clear cell carcinoma. The reaction is characterised by hyperchromasia, vacuolated or eosinophilic cytoplasm, and nuclear expansion with conspicuous nucleoli [2].

Cervical Cancer

Micro invasion

According to the International Federation of Obstetrics and Gynaecology (FIGO), cervical cancer discovered during pregnancy is staged the same way it does in non-pregnant patients.17 In order to assess the degree of stromal invasion in patients with microinvasive cervical carcinoma (MIC) (i.e., FIGO IA1-2), excision is advised. Patients with stage IA1 disease can safely carry their babies to term; however, those with stage IA2 or occult IB1 disease should think about having their babies delivered and receiving foetal lung maturation therapy instead [3].

For women with Stage IA-IB1 cervical cancer, numerous case reports and series describe the results following treatment delays of 1 to 32 weeks to allow for foetal maturity. Disease progression was uncommon overall. A purposeful delay in treatment to allow for foetal maturation may benefit women with early-stage illness [3].

Metastatic cervical cancer

Stage IVB cervical cancer will seldom be diagnosed in pregnant women. The prognosis for patients with distant metastases is extremely dismal. If discovered early in the pregnancy, termination should be explored, and standard treatment (such as platinum-based chemotherapy combined with bevacizumab) should be advised. Systemic chemotherapy should start right away without bevacizumab if metastatic cervical cancer is discovered after viability or if the patient decides to carry the pregnancy to term. Although cisplatin is superior to carboplatin for this reason, subset studies favour cisplatin in individuals who have never taken cisplatin. Patients who are unable to tolerate taxanes can be evaluated for topotecan and cisplatin. Immune checkpoint inhibitors are US FDA Category D because their usage in animal models raised the incidence of spontaneous miscarriages, despite the fact that pembrolizumab had activity in people with PDL1+ tumours [4].

Ovarian Cancer

Benign ovarian masses

When compared to non-pregnant people, benign ovarian tumours have a wide differential that also includes pregnancy-specific features. The most typical type of mature germ cell tumour is teratoma. They are frequently unilocular on ultrasonography, with intricate echo patterns denoting fatty, solid, and calcified components. Mature teratomas frequently survive during pregnancy but infrequently expand, unlike other benign cysts. Endometriomas show up as uniform masses with weak echoes. They may have several loci, but they don't have any other alarming characteristics like mural nodules or internal vascularity. In a case series of 53 endometriomas discovered in the first trimester, it was discovered that 24% of them grew larger on repeat ultrasound in the second trimester, 27% remained steady, 34% shrank, and 15% resolved.41 Only 10 (19%) pregnant women needed a cystectomy [5].

Borderline ovarian tumor

Borderline tumours in pregnancy frequently have histologically and clinically aggressive characteristics such peritoneal implants, microinvasion, intraepithelial carcinoma, and micropapillary features. In the study already mentioned, 41% of serous borderline tumours had micropapillary characteristics. Borderline tumours discovered during pregnancy have aggressive histologic characteristics, according to a pathologic examination of 10 cases at MD Anderson. These aggressive histologic characteristics, however, had disappeared in two individuals who had restaging surgery after delivery, indicating that they might be transitory and connected to pregnant physiology [6].

Uterine Cancer

Uterine sarcoma

The most frequent gynecologic tumour in women of reproductive age is a uterine leiomyoma, which occurs in 10–20% of pregnancies.74 Due to the danger of haemorrhage and foetal loss from surgery, asymptomatic fibroids should be treated promptly during pregnancy. Most fibroids do not considerably increase in size while a woman is pregnant. Despite the low frequency of leiomyosarcoma in quickly expanding "fibroids" (0.27%), there aren't many trustworthy preoperative diagnostic options [7].

Endometrial cancer

Endometrial cancer has been diagnosed in about 25 cases during or after pregnancy, with 16 cases being found after first-trimester abortions, 9 cases being found within 14 months of delivery, and one case being discovered by accident during a hysterectomy for placenta accreta. The prognosis in Grade 1 and 2 predominant instances (n=23) has been good. Because the uterus itself is affected when endometrial cancer is diagnosed in a woman who is later discovered to be pregnant, definitive therapy without preserving the pregnancy is not possible [8].

Vulvar and vaginal cancer

There have only been a few forty cases of vulvar cancer during pregnancy reported in the literature. For FIGO stage I lesions, radical local excision with sentinel lymph node mapping should be taken into consideration. Increased vulvar blood flow brought on by pregnancy might cause considerable perioperative blood loss, which should be prevented by using electrocautery sparingly. By executing the procedure two hours after local technetium-99 injection (0.25 mCi, T1/2 six hours), foetal

exposure can be minimised. There is little systemic exposure since technetium is collected in the lymph node. Excision of nodes further minimises exposure. In order to reduce the risk of anaphylaxis, lymphoscintigraphy and lymphazurin blue should both be skipped. It is best to have a caesarean delivery to avoid vulvar wound dehiscence [9, 10].

Conclusion

All prenatal malignancies should be treated with a multidisciplinary strategy. A key component of effective patient-centered care is comprehensive risk-benefit counselling and shared decision-making that takes into account the most recent and pertinent findings. There is no evidence that pregnancy affects the prognosis of women with gynecologic malignancies, provided that patients are handled in accordance with the guidelines outlined in this review.

References

1. Arias-Stella J. The Arias-Stella reaction: facts and fancies four decades after. *Adv Anat Pathol*. 9, 12-23 (2002).
2. Insinga RP, Glass AG, Rush BB. Diagnoses and outcomes in cervical cancer screening: A population-based study. *Am J Obstet Gynecol*. 191, 105–113 (2004).
3. Fader AN, Alward EK, Niederhauser A *et al*.Cervical dysplasia in pregnancy: a multi-institutional evaluation. *Am J Obstet Gynecol*. 203, 113.e1-113.e6 (2010).
4. Tam KF, Cheung ANY, Szeto E *et al*. Atypical glandular cells diagnosed during pregnancy and the postpartum period: a retrospective analysis. *Eur J Obstet Gynecol Reprod Biol*. 155, 213-216 (2011).
5. Bai H, Liu J, Wang Q *et al*. Oncological and reproductive outcomes of adenocarcinoma in situ of the cervix managed with the loop electrosurgical excision procedure. *BMC Cancer*. 18, 461(2018).
6. Tam KF, Cheung ANY, Liu KL *et al*. A retrospective review on atypical glandular cells of undetermined significance (agus) using the Bethesda 2001 classification. *Gynecol Oncol*. 91, 603-607 (2003).
7. Hacker NF, Berek JS, Lagasse LD *et al*. Carcinoma of the cervix associated with pregnancy. Obstet Gynecol. 59, 735-746 (1982).
8. Economos K, Perez Veridiano N, Delke I *et al*. Abnormal cervical cytology in pregnancy: a 17-year experience. *Obstet Gynecol*. 81, 915-918 (1993).
9. Rogers RS, Williams JH. The impact of the suspicious Papanicolaou smear on pregnancy: A study of nationwide attitudes and maternal and perinatal complications. *Am J Obstet Gynecol*. 98, 488-496 (1967).
10. Bhatla N, Berek JS, Fredes MC *et al*. Revised FIGO staging for carcinoma of the cervix uteri. *Int J Gynecol Obstet*. 145, 129-135 (2019).