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Solitary Cutaneous Kaposi's Sarcoma in an HIV-Seronegative Pregnant Woman: A Report of a Rare Case and Review

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Abstract

A 39-year-old Moroccan woman (gravida 5, para 3) presented at 28 weeks of gestation with a painless violaceous nodule on the dorsal aspect of her right foot (2.5 cm in diameter), which had been enlarging progressively for nine months (predating conception by three months). An incisional biopsy demonstrated spindle-cell vascular proliferation forming slit-like spaces with hyaline globules, hemosiderin deposits, and three mitoses per 10 high-power fields, consistent with nodular Kaposi's sarcoma (KS). Immunohistochemistry was positive for CD31, CD34, and human herpesvirus 8 (HHV-8) (LANA-1). HIV enzyme-linked immunosorbent assay (ELISA) was negative, and HHV-8 IgG was positive. Staging via abdominopelvic ultrasound at 29 weeks was normal. Following multidisciplinary discussion, the lesion was monitored clinically and remained stable throughout gestation.

At 38 weeks, she delivered a healthy male infant (3,000 g, Apgar 10/10) by elective cesarean section. Placental histology and neonatal HHV-8 DNA PCR (day 1) were negative. Breastfeeding was avoided as a precautionary measure against viral transmission. A thoraco-abdomino-pelvic CT scan performed two days post delivery showed no visceral involvement. Wide local excision performed one month postpartum confirmed KS with tumor-free margins (R0). At 10 months post excision, there was no maternal recurrence, and infant HHV-8 PCR and serology remained negative.

In this HIV-negative pregnant patient, deferring surgical excision and staging imaging until after delivery resulted in a favorable outcome for both the mother and the child while avoiding fetal exposure to radiation or surgical risks. Tissue biopsy with HHV-8 immunostaining is essential to differentiate KS from other benign vascular lesions of pregnancy, such as pyogenic granuloma.

Categories: Obstetrics/Gynecology, Oncology, Dermatology
Keywords: case report, cutaneous, hhv-8, hiv-negative kaposi sarcoma, kaposi sarcoma, pregnancy

Introduction

Kaposi's sarcoma (KS) is a vascular neoplasm typically presenting as violaceous macules, plaques, or nodules of the skin and mucosa, and it may involve the viscera in advanced disease [1]. HHV-8 was identified in KS lesions in 1994 [2] and is detected in virtually all cases [1]. Four epidemiological forms are described: classic, endemic, iatrogenic, and AIDS-associated. KS diagnosed during pregnancy is rare, particularly in HIV-negative women, and raises specific questions about maternal treatment, fetal safety, and vertical transmission [3,4]. We report a case of solitary cutaneous KS, probably of the classic type, diagnosed at 28 weeks of gestation in a lesion that had been present for nine months, managed by surveillance until delivery and then excised.

Case Presentation

We report a case of a 39-year-old Moroccan woman, gravida 5, para 3, abortus 1 (three deliveries, one abortion, and the current pregnancy), with two previous cesarean sections. She had no relevant medical history, no diabetes, and no history of medication, including corticosteroids or other immunosuppressive treatment.

Gestational age was established by a first-trimester ultrasound consistent with 12 weeks of amenorrhea. At 28 weeks, she presented with a painless lesion on the dorsal aspect of the right foot, present for nine months (i.e., since about three months before conception) and enlarging progressively, without bleeding. Examination showed a solitary 2.5 cm violaceous nodule, with no other mucocutaneous lesions, no oral mucosal involvement, and no lymphadenopathy(Figure *1*).



FIGURE 1: Clinical appearance of the lesion at presentation (28 weeks of gestation) before biopsy.

Solitary, painless, violaceous nodule measuring 2.5 cm on the dorsal aspect of the right foot, present for nine months, progressively enlarging, without bleeding.

Speculum examination showed a healthy-appearing vagina and cervix, with no bleeding and no leukorrhea. Vaginal examination found a long, closed, posterior cervix. Obstetric ultrasound showed a singleton pregnancy with fetal biometry consistent with gestational age, normal fetal morphology, and normal amniotic fluid volume and Doppler parameters.

An incisional biopsy showed a proliferation of spindle cells forming slit-like vascular spaces with extravasated erythrocytes. Intra- and extracellular pink globules (periodic acid-Schiff (PAS)-positive hyaline globules) and interstitial and macrophagic brown pigment (Perls-positive hemosiderin) were present. The mitotic index was moderate, with three mitoses per 10 high-power fields. Immunohistochemistry was positive for CD31, CD34, and human herpesvirus 8 (HHV-8) (LANA-1). The differential diagnosis included pyogenic granuloma, acroangiodermatitis (pseudo-Kaposi), angiosarcoma, and bacillary angiomatosis. HIV serology by enzyme-linked immunosorbent assay (ELISA) was negative, and HHV-8 IgG was positive. During pregnancy, staging was limited to abdominopelvic ultrasound at 29 weeks, which showed no abnormality. Thoraco-abdomino-pelvic CT, deliberately deferred until after delivery to avoid fetal radiation exposure, was performed two days before the excision and showed no visceral lesions or lymphadenopathy.

After multidisciplinary discussion (obstetrics, dermatology, oncology), surgery was deferred until after delivery, and the lesion was monitored clinically: it was solitary, painless, and stable, with no features of urgency, and excision during pregnancy would have exposed the mother and fetus to unjustified anesthetic and fetal risks, while the staging work-up (CT scan) could only be performed after birth (Figure *2*).

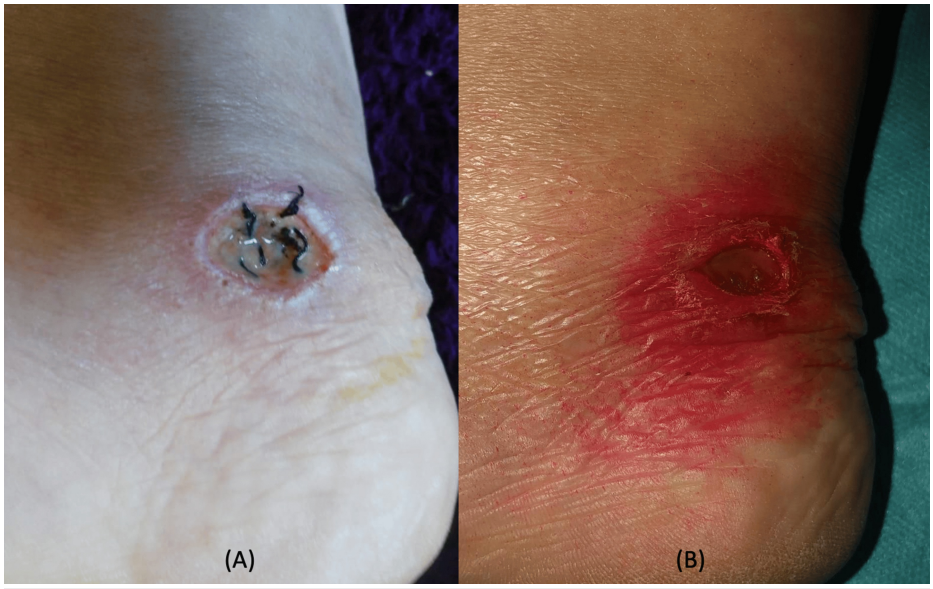


FIGURE 2: Postoperative appearance of the right foot after wide local excision.

(A) At 10 days. (B) At 15 days.

The lesion, which had enlarged progressively before diagnosis, remained stable (no growth, no new lesions) throughout pregnancy. At 38 weeks, she delivered a healthy male infant (3,000 g, Apgar 10/10) by elective cesarean section. Histological examination of the placenta was unremarkable. HHV-8 DNA PCR on neonatal blood on day 1 of life was negative. After consultation with a pediatric infectious disease specialist, breastfeeding was avoided because of the risk of transmission. Histology of the excision specimen confirmed KS with tumor-free margins (R0). Infant HHV-8 PCR and serology were negative at six months. At 11 months after excision (about 12 months postpartum), there was no local or systemic recurrence in the mother, and the child was in good health.

Discussion

KS in HIV-negative pregnant women has rarely been reported [3,4]. HHV-8 is necessary but not sufficient for KS development; it infects endothelial (including lymphatic) cells, which transform into tumor spindle cells [1]. Seroprevalence data on HHV-8 in pregnant women outside endemic areas remain limited [5], and HHV-8 reactivation during pregnancy has mainly been studied in HIV-infected women [6]. HHV-8 seroprevalence is intermediate in Mediterranean regions, and this patient's origin, age, absence of immunosuppression, and indolent course favor the classic form.

In our patient, the lesion predated conception by about three months, so pregnancy cannot be considered its trigger. Its stability during surveillance does not allow conclusions about hormonal effects. KS shows a marked male predominance, prompting hypotheses about hormonal influences. Early work suggested an antitumor effect of human chorionic gonadotropin (hCG) [7,8], but this remains controversial [3], and worsening of KS during pregnancy has also been reported.

HHV-8 is transmitted mainly through saliva [9]. Mother-to-child transmission has been reported in endemic populations, supported by serological and molecular evidence [10-12]. HHV-8 can infect placental tissue in vitro and in vivo [13], which justifies placental examination; ours was unremarkable. HHV-8 was not detected in maternal saliva or breast milk, but was identified in two colostrum samples [14]. In our case, the negative HHV-8 DNA PCR on day 1 argues against in utero transmission, and the negative PCR and serology at six and 12 months are reassuring, although longer infant follow-up remains desirable. Transmission through breast milk is not established, and the decision to avoid breastfeeding was a precautionary, individualized one made in consultation with a pediatric infectious disease specialist [14].

Management is individualized because no guidelines exist. For limited disease, options include excision, cryotherapy, intralesional therapy, or observation. Systemic chemotherapy (liposomal anthracyclines) is reserved for disseminated or visceral disease and should be avoided in the first trimester; retinoids, thalidomide, and thalidomide analogues are contraindicated, and radiotherapy is generally avoided. In our patient, a solitary, indolent lesion without clinical signs of visceral involvement justified biopsy, surveillance, and definitive excision after delivery, which avoided any fetal exposure to treatment or radiation.

Conclusions

KS diagnosed during pregnancy in HIV-negative women has rarely been reported, and no management guidelines exist. In this HIV-negative patient, a solitary, indolent cutaneous KS was managed by biopsy, clinical surveillance, and delayed excision. This strategy spared the fetus any exposure to treatment or radiation. It was associated with a favorable outcome for both the mother and the child, with clear surgical margins and no recurrence at 10 months. Mother-to-child transmission of HHV-8 has been documented in endemic populations, and the virus has been detected in maternal saliva and breast milk. The negative placental histology and negative HHV-8 PCR and serology in the infant are therefore reassuring, but they do not replace continued follow-up. As the lesion predated conception, our observation does not allow conclusions on the effect of pregnancy or of hCG on KS.

Three practical points emerge from this case. First, biopsy with HHV-8 (LANA-1) immunostaining is essential to differentiate KS from other vascular lesions of pregnancy, notably pyogenic granuloma, and a persistent or enlarging violaceous lesion should not be assumed to be benign. Second, staging should be completed as early as the clinical situation and fetal safety allow. Third, multidisciplinary management involving obstetricians, dermatologists, and oncologists is crucial to optimize maternal and fetal outcomes. Long-term follow-up of both the mother and the child is needed, and further reports and pooled series are required to guide the management of KS in pregnancy.

Additional Information

Author Contributions

All authors have reviewed the final version to be published and agreed to be accountable for all aspects of the work.

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Disclosures

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