

## Background

- Human papillomavirus (HPV) infection is the most common sexually transmitted infection (STI), and is known to cause several types of cancers, including anogenital and oropharyngeal malignancies.<sup>1-3</sup>
- With the rise of vaccinations giving people immunity from infection, there has been an improvement of not only HPV infection awareness, but also cancer prevention.<sup>3,4</sup>
- While HPV infection is common, vertical transmission, or passing infection from mother to child via the placenta during pregnancy and childbirth, is rare.<sup>1,2,5</sup>
- This case is a rare presentation of condyloma acuminata in a newborn in the setting of a mother's unknown HPV infection.

## Case Description

### Subjective

- Chief Complaint**
  - Wart-like lesion on newborn scalp
- History of Present Illness**
  - Female at day of life (DOL) 0 with gestational age of 37 weeks and 0 days was born via uncomplicated spontaneous vaginal delivery with APGAR 9 at 1 minute and 9 at 5 minutes presents with a wart-like lesion with multiple septations on the left superior scalp seen on physical exam in the newborn nursery.
- Past Medical History**
  - Mother
    - 31-year-old female, G3P3003
    - Preeclampsia with severe features
    - Gynecological history
      - 2012: Abnormal Pap
      - 2017: negative for atypical squamous cells of undetermined significance (ASC-US)
      - November 2023: negative for intraepithelial lesion or malignancy (NILM)
      - No history of fibroids, ovarian cysts, or recurrent UTIs
- Past Surgical History**
  - Mother was status post colposcopy with loop electrosurgical excision procedure (LEEP) in 2012
- Medications**
  - Baby
    - Vitamin K and erythromycin ointment given on DOL 0
    - Mother refused hepatitis B vaccine
  - Mom
    - PO acetaminophen for headache
    - IV magnesium for seizure prevention
    - IV labetalol for blood pressure control
    - IV oxytocin for induction of labor
- No known drug allergies or pertinent family history**
- Social History:** Mother had 2.5 pack-year history and reported she was trying to quit
- Review of Systems:** baby was voiding, stooling, and feeding well without difficulty, no fevers

## Objective

### Physical Exam

- Vitals
  - Weight: 6lb 5.9oz, length: 19.5 inches, head circumference: 33.9 cm, heart rate: 150 BPM, temperature: 36.8 degrees Celsius, respiratory rate: 58 breaths per minute, SpO2 98%
- General
  - Infant was asleep comfortably next to mother's bed and swaddled in blanket in hospital bassinet
  - In no acute distress
- Skin
  - Cyanosis on bilateral hands and feet, otherwise warm and well perfused
  - No mottling, rash, ecchymosis, or increased vascularity noted
  - No jaundice noted
  - Wart-like lesion noted on scalp, otherwise no other similar lesions
- Head
  - Fontanelles soft and non-bulging
  - No bruising noted
  - 2-cm wart-like erythematous lesion with multiple hypopigmented septations on the left superior scalp, freely mobile and non-tender, no ulcerations**

### Diagnostic Tests

- Mother
  - Laboratory results prior to delivery
    - (-) Gonorrhea/chlamydia
    - (-) GBS
    - (-) drugs of abuse in urine
- Baby
  - Newborn screen pending

## Differential<sup>6,7</sup>

- Condyloma acuminata** - final diagnosis
- Hemangioma
- Nevus sebaceous
- Seborrheic dermatitis
- Verrucae vulgaris



<https://www.peds.org.uk/clinical-guidance/condylomata-acuminata>

## Patient Outcome

- Counseled mother that this lesion was condyloma acuminata, which is a wart caused by HPV infection.
- Condyloma acuminata was a clinical diagnosis based on the characteristic cauliflower-like appearance of the lesion on this child's scalp.**
- Mother expressed not knowing she had HPV, as she had a recent negative Pap smear.
- The mother understood the importance of following up with her obstetrics/gynecologic provider for the work up and management of HPV.
- The neonatology team assured her that her baby is otherwise healthy, and next step for her would be to arrange an outpatient appointment with pediatric dermatology specialist to better treat this condition.
- Neonatology team invited questions, and mother and family stated that they had no further questions.
- Patient was discharged home on DOL 2 with a follow up appointment scheduled with Yale Pediatric Dermatology in two weeks.

## Discussion

- Potential risk factors for transplacental HPV infection include being an immunocompromised mother, preterm delivery, and history of cervical cancer, all of which did not pertain to this mother.<sup>5,8</sup>
- Longer gestational period can cause increased risk of transmission because cell-mediated immunity is downregulated in the third trimester to support the growth of the fetus, which may simultaneously increase the risk of infection.<sup>8</sup>
- Future implications and prognosis for this newborn are not fully known.<sup>1</sup>
- Transplacental transmission is a known phenomenon, but there is limited literature exploring its prevalence and management regarding neonatology.<sup>1,2</sup>
- Further investigation is needed to evaluate the pathophysiology of transmission.<sup>1,2,5</sup>
- Regular HPV screening during pregnancy and recommending vaccination when appropriate are ways to prevent vertical transmission and mitigate its effects.<sup>3,4</sup>

## Conclusions

- Condyloma acuminatum, also known as genital warts, are skin lesions caused by HPV, which is the most prevalent STI.
- Transplacental transmission is a rare route of HPV infection.
- Encourage regular STI screening during pregnancy to prevent complications for the newborn.

## References

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## Hospital Course

9/26/2024

- Mother experienced symptoms concerning for preeclampsia including headache, lower extremity edema
- Obstetrician referred her to the emergency department (ED) for preeclampsia work up
- With reassuring laboratory results, she was sent home with clear instructions for returning

9/29/2024

- Patient had a systolic blood pressure (BP) reading of 170mmHg at home, so she reported to the ED and was admitted for induction of labor

9/30/2024

- Uncomplicated vaginal delivery occurred at 12:30 pm
- Wart-like lesion was noticed on newborn physical exam, which prompted a neonatology consultation on DOL 1