

## Florid vulvar warts in a 39-year-old human immunodeficiency virus-positive woman: A case report

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### ABSTRACT

Condyloma acuminata are human papillomavirus (HPV) infections frequently caused by HPV serotypes 6 and 11 that affect both sexes and are particularly infectious, recurrent, and negatively impact the quality of life of affected individuals. It is linked with the human immunodeficiency virus (HIV), is usually more aggressive and florid, and occurs at multiple sites with prevailing treatment difficulties in HIV-positive individuals. We present a curious case of florid vulvar warts in a 39-year-old HIV-positive woman.

**Key words:** Florid, Human immunodeficiency virus-positive, Vulvar warts

Condyloma acuminata, also known as anogenital or genital warts (AGW), is the most frequent manifestation of human papillomavirus (HPV) infection [1]. They are caused by HPV, which is a divergent group of viruses that are highly infectious, mostly present with asymptomatic features that resolve without treatment, and are usually classified as low-risk and high-risk serotypes. There are a large number of HPV serotypes, but genital warts are caused by the low-risk HPV types 6 and 11 [2]. Globally, the prevalence of AGW is 0.13–5.1%, with an incidence of 103–170 cases/100,000 person-years in males and 76–190 cases/100,000 person-years in females [3]. They usually affect young women more than men and are seen in the sexually active [4]. However, an increasing burden of disease is seen in men in Sub-Saharan Africa, with a prevalence of 2–12.2% across the African regions, with the highest in West Africa [5]. An association between genital HPV and human immunodeficiency virus (HIV) has been reported, whereby HPV increases the chance of HIV acquisition and HIV increases the risk of developing genital warts [6]. They are usually more frequent and aggressive, with an unusual mode of spread and varied anatomical locations in HIV-positive persons [7]. Diagnosis is typically clinical, and treatment options vary depending on the site, size, and number of warts [4].


The oddity of this lesion – co-infection with HIV – and the increasing evidence of its burden in Sub-Saharan Africa prompted

this report with the view of heightening the index of suspicion for both clinicians and pathologists and the imminent roll-out of the HPV vaccine in Nigeria.

### CASE REPORT

A 39-year-old para 7+0 with 3 children alive was referred to the gynecology clinic of the Federal Teaching Hospital Katsina on account of vulvar growths of 1-year duration before the presentation. The growths were initially small, involving the labia, but later progressed to involve the clitoris, anal area, and the upper part of the inner thighs. There was associated itching and foul-smelling vaginal discharge, which started about 6 months after the appearance of the growths. There was also a history of dyspareunia, but no bleeding from the mass and no post-coital bleeding. It never regressed. There was no difficulty in passing urine, dysuria, hematuria, lower abdominal pain, fever, constipation, change in bowel habits, or difficulty in passing stool. There was a history of similar growths on the penile shaft of her husband, who was treated about 6 months before her presentation. Since the appearance of the symptom, she has received several medications and injections at the referral center but there has been no improvement in her symptoms.

She is a known retroviral disease (RVD) patient diagnosed about 3 years ago and has been on highly active anti-retroviral therapy (HAART) since then. She is in her fourth order of marriage in a polygamous setting and is the sixth wife of her

Access this article online	
Received - 05 December 2023 Initial Review - 15 December 2023 Accepted - 26 January 2024	Quick Response code 
DOI: 10.32677/ijcr.v10i2.4373	

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current husband, who is a driver. Her first two husbands died of pulmonary tuberculosis following prolonged illness; she is unsure of the disease that led to the death of her third husband. Her fourth and current husband is also RVD-positive and on HAART. His first three wives all died of complications from HIV infection. She had seven pregnancies and deliveries, with three children alive. Four children died from various childhood illnesses. Her last child is also HIV-positive and on HAART.

Pelvic examination revealed a fungating mass involving the entire labia minora, labia majora, and clitoris, extending up to the perianal area and upper part of the inner thighs bilaterally (Fig. 1a). There was partial occlusion of the introitus and profuse, foul-smelling discharge all over the mass with significant discomfort, but no areas of bleeding were noted. A gentle digital examination revealed normal cervical consistency with multiple smaller growths in the vaginal walls. An assessment of florid vulvar warts in an HIV patient was made. She was placed on antibiotics and analgesics and advised to do sit-baths for a week.

The following week, due to the clearing of discharge and reduction of discomfort, a speculum examination was done, which revealed a grossly normal cervix with no ulcerations or masses. There were multiple small warty growths on the vaginal walls, with the largest measuring about 0.5 cm in diameter. A visual inspection under acetic acid was done, and no aceto-white areas were noted on the cervix. A digital rectal examination revealed multiple masses all around the anal opening with a good sphincteric tone. No masses were palpated in the rectum. A biopsy of one of the masses was taken and sent to the pathology laboratory for histological analysis.

Grossly, we received a wart-like tissue measuring 12 × 8 × 3 cm. Its transection showed gray-white to necrotic tissue surfaces. Microscopic examination revealed acanthotic, parakeratotic, stratified squamous epithelium with prominent kerato-hyaline granules disposed within a fibromuscular stroma, demonstrating several small-sized vascular channels (Fig. 2). A diagnosis of condyloma acuminatum was made. The formalin-fixed paraffin-embedded block was taken to a molecular laboratory for HPV deoxyribonucleic acid (HPV-DNA) serotyping. HPV-6 was isolated, as shown in Fig. 3.

The patient was counseled on the diagnosis and the options for treatment. She consented to a simple vulvectomy. Investigations done before the surgery included a full blood count (normal),

serum electrolytes, urea, and creatinine (E/U/Cr; normal), urinalysis (normal), hepatitis B and C screening (both non-reactive), random blood sugar (5.3 mmol/L), viral load (<20 copies/mL), HPV serotyping, and serotype (HPV-6 isolated). Two pints of blood were grouped and cross-matched for the surgery. She had a simple vulvectomy done (Fig. 1b).

After the surgery, the urethral catheter was left *in situ* for 48 h and then removed. She was counseled to maintain good perineal hygiene and was placed on antibiotics, analgesics, and lactulose. She subsequently developed a wound infection on the fifth postoperative day that was managed with antibiotics and sit-in baths. She was discharged home after 2 weeks and is doing well on follow-up.

**DISCUSSION**

Genital warts are finger-like, cauliflower-like lesions seen in damp tissue of the genital tract, such as the vulvar, vagina, cervix, penoscrotal, and peri-anal locations [8]. They are typically sexually transmitted and caused by HPV infection. HPV is a small double-stranded DNA virus from the family Papovaviridae that is sub-classified into low-, intermediate-, and high-risk serotypes. Genital warts are typically linked to the low-risk serotypes 6 and 11 and usually infect the epithelium of the genital tract [9]. In the present case, HPV serotype 6 was isolated.

AGW are often spread sexually and affect the penoscrotal skin, cervix, vagina, and vulva of the genitalia, as well as the peri-anal area as wart-like growths [9]. In this case, the growths were seen on the vulva, clitoris, vagina, cervix, and perianal region, with a positive history of similar growths on the penile shaft of the husband. AGW is highly associated with immunocompromised states such as HIV infection [10]. They are common and more florid in immunosuppressed individuals, especially those with HIV and individuals having anal coitus and/or male sex with males [8,11]. They are also more prevalent, florid, and symptomatic in African men living with HIV [5]. In

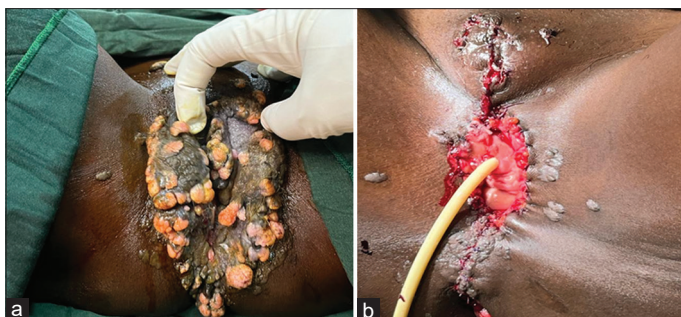


Figure 1: (a) Fungating mass involving the vulvar and perianal area; (b) post-operative picture showing vulvar and perianal area after the removal of warts

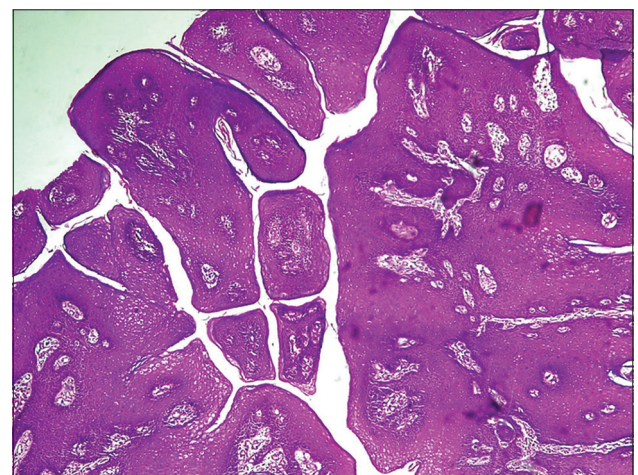
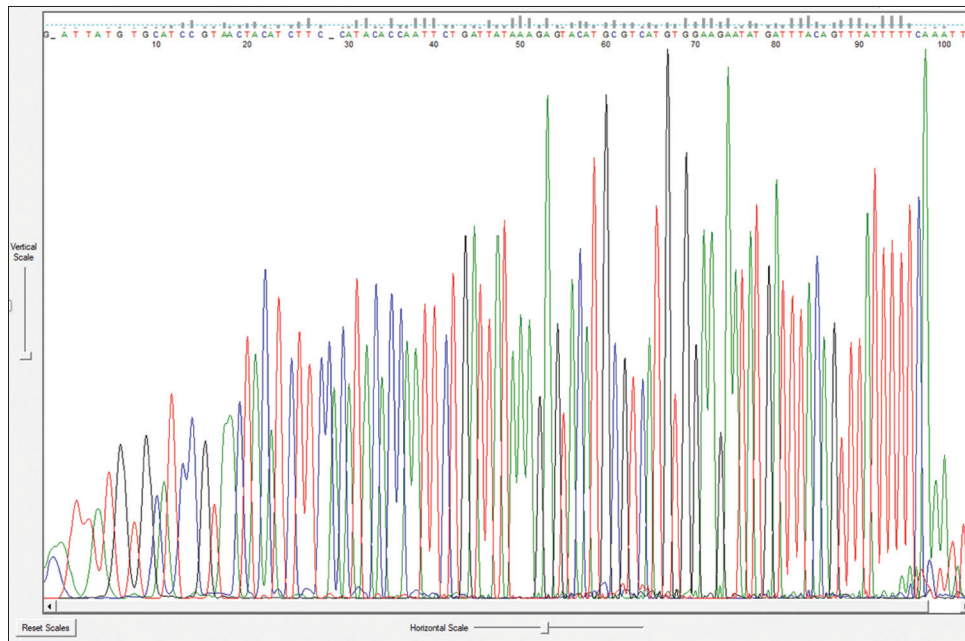


Figure 2: Photomicrograph of the H and E-stained section that shows papillomatous acanthotic, parakeratotic, stratified squamous epithelium with prominent kerato-hyaline granules disposed within a fibromuscular stroma exhibiting numerous small-sized vascular channels (×40 magnification)



**Figure 3: DNA serotyping showing human papillomavirus type 6 with DNA sequence of GATTATGTGCATCCGTAACACTACATCTTCCATACA CCAATTCTGATTATAAAGAGTACATGCGTCATGTGGAAGAATATGATTACAGTTATTTTCAAATTAG**

the index case, the individual is a known HIV-afflicted female with no history of anal coitus.

In sub-Saharan Africa, there is a reported increase in the HPV-related burden of diseases, with its attendant economic burden, than in higher-income countries [5]. Socio-economic status (SES) can be determined using the modified Kuppuswamy scale, where a combination of education, income, and occupation are evaluated [12]. The index patient is an uneducated housewife whose husband is also uneducated, with an elementary occupation and an income equivalent to a score of 1. Her SES, based on the modified Kuppuswamy scale, is thus class 5.

The diagnosis of AGW is either made clinically or by HPV antigen detection performed using DNA hybridization [13]. In this patient, the diagnosis was both clinical, as evidenced by the multiple growths seen on the vulva, clitoris, vagina, and perianal region, and by HPV-DNA serotyping, where serotype 6 was isolated.

Treatment may be medical via the use of 0.5% podophyllotoxin solution and/or creams such as imiquimod cream and sinecatechins, or surgical, which has a clearance rate of nearly 100% [14]. In the index patient, due to the extensive nature of the warts, a simple vulvectomy and excision of perianal lesions were done to prevent recurrence.

Unconventional clinical presentations such as the Buschke-Lowenstein tumor and epidermodysplasia verruciformis may be seen, especially in the immunosuppressed [15]. This is absent from this patient.

**CONCLUSION**

Genital warts are significant public health concerns due to their association with HPV infection and the imminent HPV vaccination program that is on the horizon for Nigerians. They

are more common in the immunocompromised, such as in HIV, with treatment modalities ranging from medical therapy with podophyllin for smaller warts, to surgical excision for larger and florid warts as in this index case.

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*Funding: Nil; Conflicts of interest: Nil.*

**How to cite this article:** Rasheed FA, Usman A, Abdurrahman A, Aliyu UU, Yakasai I. Florid vulvar warts in a 39-year-old human immunodeficiency virus-positive woman: A case report. *Indian J Case Reports*. 2024;10(2):59-62.