

Treatment of Large External Genital Warts With CO₂ Laser Therapy in a Pregnant Woman

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ABSTRACT

Background: Genital warts are very common. Large external genital warts are more commonly seen in immune-suppressed individuals including pregnant women. Existing treatment modalities, center on ameliorating symptoms which are largely of cosmetic concerns. CO₂ laser therapy is a safe and effective method used in the treatment of genital warts in the more vulnerable population of children and pregnant women, due to its improved clearance rates and safer side effect profile.

Objective: Although giant strides have been taken in the dermatological utilization of lasers in developed countries, few reports have demonstrated its use in sub-Saharan Africa, with no reports emerging from Nigeria. The psychosocial impact and possible obstetric complications of large external genital warts cannot be over-emphasized. We therefore aim to highlight the importance of making this safe and effective treatment option available to all patients in this region including children and pregnant women.

Case Presentation: We present a 23 year old female at 24 weeks gestational age, who presented with large fleshy colored cauliflower shaped lesions in her genital area including her introitus. She had surgical ablation of these lesions with CO₂ laser therapy with complete clearance of the lesions, and subsequently had an uneventful spontaneous vaginal delivery of a live male infant.

Conclusion: CO₂ laser therapy is a safe and effective treatment modality, used for the removal of genital warts in children and pregnant women. This treatment option should be made available to all patients to effectively combat the cosmetic, psychosocial and possible obstetric complications posed by large external genital warts.

INTRODUCTION

Genital warts are caused by the Human Papilloma Virus (HPV) most commonly by types 6 and 11. It is spread through direct skin-to-skin contact, usually during oral, genital, or anal sex with an infected partner. These warts may occur singly but are more often found in clusters and can occur anywhere in the anogenital area. Although the yearly incidence varies, the disease remains highly prevalent among sexually active individuals who indulge in unprotected sex.¹

There exists no cure for HPV as at the time of this report. Existing treatment modalities are focused on the removal of visible warts, but these may also regress spontaneously, furthermore up to 80% of HPV infected individuals will clear the infection

within 18 months.² There is no evidence to suggest that removing visible warts reduces transmission of the underlying HPV infection.

Treatments can be classified as either physically ablative or topical agents and these can be patient applied or provider administered. Physically ablative therapies are considered more effective at initial wart removal, but are associated with more significant side effects.

Recent studies have demonstrated an increased efficacy in the use of laser therapy compared with Cryotherapy in the treatment of genital warts with improved clearance rates and fewer side effects^{3,4}. CO₂ laser can be used in treating extensive and thick lesions effectively as it is able to penetrate the lesions deeper than generally occurs with cryotherapy, it is

therefore considered a safe and effective mode of treatment for genitalia warts in childhood and pregnancy.^{3,5,6}

CASE PRESENTATION

A 23yr old Nigerian primigravida presented to her antenatal clinic at 24 weeks gestational age with complaints of copious, whitish, vaginal discharge. She had also noticed genital lesions which progressively increased in size and number over the course of the pregnancy. These lesions were neither painful nor pruritic. There was no history of dyspareunia; her spouse had no similar lesions and she denied a history of multiple sexual partners. Examination revealed numerous flesh colored cauliflower-shaped papules seen in her vulva, introitus, and medial aspect of her labia minora. The largest measured about 4x5mm in diameter with whitish discharge from her introitus (figure 1).

A diagnosis of Large External Genital warts complicated by Candida infection was made. She was treated for the candida infection by her obstetrician and subsequently referred to our Dermatology clinic for further examination and treatment. Laboratory investigations done revealed normal cell counts and packed cell volume, HIV 1 & 2 rapid serology test done was negative, VDRL screening for syphilis was negative, Hepatitis screening for HBSAg and Anti – HCV antibody was also negative. The patient was adequately counseled, informed consent was obtained and treatment was commenced using the YouLaserMT (Quanta System).

Using strict aseptic techniques, lesions were evaporated in focal distance of laser light using YOU LASER MT CO2 laser/GaASunit, made in Italy with continuous mode wavelength of 10600 nm with fluency of 3.5 J/cm² after injecting the area with a local anaesthetic (lignocaine). Mebo ointment (0.25% W/W β -Sitosterol) was applied post operatively, and twice a day for 5 days after each session. She had a total of 5 sessions of CO2 laser surgical ablation at 2 weekly intervals. Figure 2 improvement by week 3 of treatment. She had no significant post-operative complications and evaluation after the 5th session (figure 3) revealed remarkable clinical improvement with visible clearance of all lesions. She was referred to her

Obstetrician for further management and had an uneventful spontaneous vaginal delivery of a live male baby, thereafter.

CASE DISCUSSION

Genital warts are caused by the Human Papilloma Virus (HPV). Over 100 types of this virus exist with > 40 genotypes responsible for genital infections.⁷ The spectrum of presentation of genital warts includes asymptomatic and sub clinical infection and pre-cancerous or cancerous lesions. HPV types 16 and 18 have been etiologically implicated in several anogenital cancers including vulvar, vaginal, cervical, anal and penile cancers. HPV Types 6 and 11 are responsible for about 90% of genital warts.⁸ Genital warts are highly contagious with 64% of sexual partners of patients with genital warts, developing similar lesions.⁹

Epidemiologic data from Nigeria demonstrates a female preponderance with most patients presenting in the 3rd decade of life with vulvar genital warts as the commonest presentation.^{10,11,12} External genital warts may pose a significant problem during pregnancy as lesions have been known to increase in size significantly due to immunological and hormonal changes. Other risks to the mother includes, psychological distress, increased risk of miscarriage, pre-eclampsia, dysuria, difficult vaginal birth, antepartum and postpartum haemorrhage, and increased caesarean deliveries, Risk to the child would include, neonatal HPV infection and recurrent respiratory papillomatosis due to birth associated exposure to HPV.¹³

Clinical diagnosis of genital warts can be made through direct visual inspection with a bright light and magnification.¹⁴ Biopsy is not usually recommended however histologic confirmation may be needed if lesions are atypical, recalcitrant or in cases of suspected malignancy. Differentials include condylomata, fibroepitheliomas, molluscum contagiosum, seborrheic keratosis and neoplasms including Buschke-Lowenstein tumors.

The primary aim of treating genital warts includes ameliorating symptoms which are largely of cosmetic concern, removal of the warts and in this case, improving the chances of a successful vaginal delivery with minimal risks to both the mother and

baby. Treatment regimens have been classified into patient applied and provider administered modalities.¹⁵ Patient applied regimens includes application of podofilox gel, imiquimod cream or sinecatechin ointment over a course of several weeks. Provider administered modalities include, cryotherapy with liquid nitrogen or cryoprobe, application of 10-25% podophyllin resin,

Trichloroacetic or Bichloroacetic acid application, photodynamic therapy with topical aminolevulinic acid, surgical removal with tangential shave excision, scissor excision curettage or electrotrocautery.¹⁵ Laser therapies can also be employed with diode laser vaporization or CO₂ therapy. Available modalities are fraught with complications; however Cryotherapy and CO₂ Laser are associated with fewer side effects and can be used as a safe and effective method for the treatment of external genital warts in childhood and in pregnancy.

Azizjalaliet al demonstrated an increased efficacy in the use of CO₂ laser compared with Cryotherapy in the treatment of genital warts.³ Treatment with CO₂ laser demonstrated complete clearance of 95% of lesions with one treatment cycle, when compared with 46.2% of cryotherapy treated lesions, achieved after two to three sessions of cryotherapy. CO₂ laser is associated with rapid healing, minimal scarring, less rates of complications, infections and recurrence.³ Unfortunately it is complex, costly, requires expertise and is not readily available in resource poor settings like Sub Saharan Africa. Nevertheless, this treatment option should be made available to all patients to effectively combat the cosmetic, psychosocial and possible obstetric complications posed by large external genital warts.



Fig. 1: Patient at presentation, before Laser therapy.



Fig. 2: After 3rd session of Laser Therapy.



Fig. 3: After 5th Session of Laser Therapy

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Fig1. Patient at presentation, before Laser therapy.