Case Report

Recurrent perianal wart therapy with 90% trichloroacetate (TCA) solution in AIDS patients

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Abstract

Background: Being the most commonly found sexually transmitted infection (STI), anogenital warts are mainly caused by human papilloma virus (HPV) type 6 and 11. These infections are often recurrent, leading to loss of time and medical expenses. Various therapeutic modalities can be chosen singularly or in combination with varying results. Treatments with less responsive results usually occur when acquired comorbidities are present, such as HIV infection.

Case Illustration: A 28-year-old homosexual male was reported to have a recurrent perianal wart for the duration of eight months. He was also diagnosed with AIDS and pulmonary tuberculosis. Initially, patient was treated with 25% podophyllin tincture, but there was no improvement. Patient was known to still practicing high-risk sexual behavior. After six treatments of TCA, the warts shrank gradually and no new warts had grown.

Discussion: It was found that there is a strong relationship between high incidences of genital warts with reduced immune function due to by HIV infection. Patients infected with HIV will often experience recurrence and needs longer treatment. In this case ARV treatment is given and followed by increase in CD4 count, thereby increasing the effectiveness of the treatment of perianal warts.

Conclusion: As recommended by clinical guideline in Indonesia, 90% TCA is proven to be effective in treating recurrent anogenital warts in this case. It is important to counsel the patient regarding the sexual behavior for him and his sexual partner, as it will affect the patient’s prognosis significantly.

Keywords: perianal warts, sexually-transmitted infection (STI), TCA solution, immunocompromised

Background

Anogenital warts are the most common sexually transmitted infections (STI) in the world. They are caused by the human papilloma virus (HPV). There are more than 200 types of HPV, in which around 40 types are known to cause anogenital warts, with type 6 and 11 being the most common.\(^1,2\) The incidence of anogenital warts cases in the world increases each year. Data obtained from Dermatology and Venereology Outpatient Clinic of Dr. Cipto Mangunkusumo National General Hospital, Jakarta in 2017 revealed that the incidence of anogenital warts made up for 4.02% (24 cases) of all new STI patient visits.\(^3\) Anogenital warts in patients with HIV-concomitant infections or immunocompromised status are usually progressive, unresponsive to therapy, and more likely to be recurrent.\(^2,4\)

Anogenital warts therapy can be administered in the form of topical medications or surgical procedures (excision surgery, electrical surgery, and frozen surgery) with varying results. To date, there is no available guideline to determine the most effective therapeutic choice, but topical therapy is the easiest and the most practical option to be performed in outpatient clinics. Topical therapy works as anti-mitotic (10-25% podophyllin tincture), wart destructor (50-90% trichloroacetate/TCA), and anti-metabolites (uracil/5-FU 5-fluoro cream).\(^2\) Treatment can be given alone or in combination with other treatment, such as anti-mitotic destructive therapy with TCA and 5-FU. Various studies have been conducted to compare treatment methods, but the results varied.\(^4-10\) All treatments are considered to have an equal effect and there is no single
Since 2015, the United Kingdom National Guidelines on the Treatment of Anogenital Warts no longer recommend the use of podophyllin tincture, due to its low efficacy and teratogenic effect. However, the Clinical Guideline by Dermatovenerologist Association in Indonesia stated that 80-90% TCA solution is recommended for anogenital warts.12 This topical therapeutic option is available at an affordable price.2 TCA solutions are caustic and can cause cell necrosis with a high successful rate.11 In this paper, a case of recurrent perianal wart was reported in a male, homosexual patient with AIDS and pulmonary tuberculosis, which was successfully treated with 90% TCA solution.

Case Illustration

A 28-year-old male came with a complaint of enlarging warts, which easily bled and had a malodorous smell in the past 8 months. The warts felt more painful, especially after the patient sat for a long time. He had abstained from sexual intercourse for a few months before the warts grew back. Venereological examination of perianal region showed multiple grayish red, lenticular, verrucous and confluent masses forming two bilaterally two bilaterally symmetrical 3 cm x 5 cm vegetated plaque, and black crusts with a small amount of blood (Figure 1A). The patient received topical podophyllin tincture twice for one week apart, but there was no improvement. The patient was referred to Dermatovenerology Outpatient Clinic in dr. Cipto Mangunkusumo National General Hospital Jakarta for further treatment.

The patient had a history of anogenital and orogenital intercourses since 2014 with his male partner, as receptive and sometimes insertive without condoms. On mid-2016, the patient complained of warts that grew around the anus. At first, the warts grew in a small number in the size of green beans. The patient had then received topical podophyllin tincture from a dermatovenerologist. The warts grew smaller in size after several treatments. However, a few months later, the warts grew back before later, they disappeared after the same treatment.

On April 2017, the warts grew even larger than before. The patient was not regularly treated and continued to have anogenital sexual intercourse. It was not clear whether his sexual partner had similar complaints. A few weeks later, the patient decided to seek medical help and was given topical podophyllin tincture again.

Eight months later, the patient was declared to be HIV-positive based on serological examination with CD4 count of less than 100 and viral load of 3.5x10² copies/ml (conventional) and 6.1x10² IU/ml. Since then, the patient had received antiretroviral (ARV) therapy. The patient had also taken anti-tuberculosis drugs since the past two months.

According to the patient, the warts did not disappear easily and quickly regrew if the CD4 count was less than 200. The results of laboratory tests revealed non-reactive VDRL (Venereal Disease Research Laboratory) and TPPA (Treponema Pallidum Hemagglutination Assay) tests. The absolute CD4 count was 250 cells/µL, CD4 percentage was 14%, with decreased T-helper lymphocytes. Genotyping examination revealed a positive HPV type 11.

The patient was treated with 90% TCA every two weeks, as well as wet dressing with 0.9% NaCl solution on areas with erosion and continued with fucidic acid ointment. The warts shrank gradually and after six treatments with 90% TCA, no new warts had grown (Figure 1B). Until now, the patient continued to take anti-tuberculosis and ARV drugs from the previous private hospital. A high-resolution anoscopy (HRA) had not been performed because the patient had not come for control. During treatment, the patient also followed scheduled counseling.

Discussion

This patient was considered to have a recurrent perianal warts rather than a reinfection because the disease recurred several times without complete resolution of the wart. The warts also grew larger despite abstinence.

Various methods can be chosen for anogenital warts treatment, with varying results. In this case, 25% topical podophyllin tincture was given at the beginning of the treatment. Despite the fact that this treatment had a good result, the warts kept growing in number and size. This might be due to the fact that the patient is still engaged in a high-risk sexual behavior.
In addition, the patient was immunocompromised with HIV and pulmonary tuberculosis. This situation was in accordance with the results of various previous studies, which found a strong relationship between the high incidence of genital warts with reduced immune function due to HIV infection.\(^2,4\) Patients infected with HIV will often experience recurrence and need longer treatment. In this case, ARV treatment is given and it is expected that an increase in CD4 count will occur, thereby increasing the effectiveness of the treatment of perianal warts.

Referring to the CDC guidelines on the selection of therapy, 90% TCA solutions were given for this patient, based on the previous history of recurrent use of 25% topical podophyllin tincture, the location and size of the lesion and drug availability in the clinical setting.\(^2\) In addition to ARV administration and increase in CD4 count, the patient responded well after six treatments using 90% TCA solution. The warts shrank to close to 90% of their initial sizes. The outcome of this therapy is in accordance with that of previous studies with healing variations ranging from 81% to 94.1%.\(^5-10\) The patient experienced TCA side effects, such as burning and pain, which were reported to be tolerable. This is commonly reported in patients who are treated with TCA.\(^2,7,11\)

Many literatures stated that there is not one therapeutic modality that is considered as the best or superior compared to other treatments. Sherrad et al\(^5\) concluded that combination therapy is more effective compared to single therapy. In this case, good results were obtained by using two types of topical drugs, namely 25% podophyllin tincture followed by 90% TCA solution. Moreover, treatment results are strongly influenced by the patient's condition, such as the presence of comorbidities.\(^2,11\)

On genotyping examination, HPV type 11 were found, which were classified as low risk for malignancy. However, the prognosis of this case is dubious, given the recurrence rate of anogenital warts is quite high, especially that the patient is immunocompromised and had pulmonary tuberculosis infection. In accordance with the CDC guidelines, patients with perianal warts must undergo anoscopy examination because they generally also have intra-anal warts. Anoscopy is highly recommended to find potential lesions in the rectum, as it helps to identify possible source of infection. The patient has not returned for control yet. Thus, it can be predicted that recurrence may occur.

**Conclusion**

Various treatment options are available for anogenital warts. These options should be selected based on the patient's condition and available facilities. In line with the Indonesian treatment guideline, 90% TCA is proven to be effective in treating recurrent anogenital warts in this case.

For patients with HIV/AIDS, keeping an absolute CD4 count above 200 cells/\(\mu\)L will result in better treatment outcome. This disease needs to be monitored and evaluated from time to time as it has a high recurrence rate.

In addition, examination of other STI and counseling on sexual behavior for the patient and

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**Figure 1.** A. The patient's perianal wart before undergoing 90% TCA treatment. B. The patient's perianal wart after undergoing six treatment of 90% TCA.
his sexual partner will affect the patient's prognosis.

References

1. Winer RL, Koutsky LA. Genital human papillomavirus infection. In: Holmes KK, Sparling PF, Stamm WE, et al. Sexually transmitted diseases. 4th ed. New York; 2008. p.489-508.
2. Centers for Disease Control and Prevention. Anogenital warts. Available from: www.cdc.gov/std/tg2015/warts.htm. [Accessed on 6th August 2018]
3. Visitation Data of Outpatient Dermatology and Venereology Clinic of Dr. Cipto Mangunkusumo National General Hospital, Jakarta, year 2017 (not published). (In Indonesian)
4. Low AJ, Clayton T, Konate I, et al. Immunodeficiency virus in high-risk women in Burkina Faso: A longitudinal study. BMC Infectious Diseases 2011;11:20. Available from: http://www.biomedcentral.com/1471-2334/11/20. [Accessed on 6th August 2018]
5. Sherrad J, Riddel L. Comparison of the effectiveness of commonly used clinic-based treatments for external genital warts. Int J STD & AIDS. 2007;18:365-8.
6. Nath D, Kumar B, Sharma KV, Kaur I, Gupta R, Malhotra S. Comparison of podophyllin and trichloroacetic acid for the treatment of genital warts. Indian J Dermatol Venereol Leprol. 1990;56:22-4. Available from: http://www.ijdvl.com/text.asp?1990/56/1/22/3472. [Accessed on 6th August 2018]
7. Godley MJ, Bradbeer CS, Gellan M, Thin RNT. Cryotherapy compared with trichloroacetic acid in treating genital warts. Genitourin Med. 1987;63:390-2.
8. Lotfabai P, Maleki F, Gholami A, Yazdanpanah MJ. Liquid nitrogen cryotherapy versus 70% trichloroacetic acid in the treatment of anogenital warts: A randomized controlled trial. Iran J Dermatol. 2015;18:151-55.
9. Karaca K, Aka N, Kose G, Kumru P, Sayharman SE. The comparison between topical 5-fluorouracil and trichloroacetic acid in the treatment of external genital condyloma acuminatum. Gynecol Obstet Reprod Med. 2007;13(1):63-6.
10. Tahart ST, Javadian M, Barat S. The efficacy of podophyllin 20% and trichloroacetic acid 30% in the treatment of genital wart. Casp J Intern Med.2010;1(1):16-9.
11. Taner ZM, Taskiran C, Onan AM, Gursoy R, Himmetoglu O. Therapeutic value of trichloroacetic acid in the treatment of isolated genital warts on the external female genitalia. J Reprod Med. 2007;52:521-5.
12. Anogenital wart. In: Widaty S, Soebono H, Nilasari H, et al. Clinical practice guideline for Indonesian dermatovenereologists. Jakarta: PERDOSKI. 2017. (In Indonesian)