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Wide Margin Excision in Patients with Giant Condyloma Acuminata

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Abstract

Giant condyloma acuminata (GCA) is one of sexually transmitted infections caused by the Human Papilloma Virus (HPV) infection, specifically HPV types 6 and 11. Giant condyloma acuminata is a rare disease with an incidence of around 0.1%. The age distribution peaked in 25-29 years. The higher prevalence of infection is associated with number of sexual partners, history of chlamydia and gonorrhea infection, smoking and human immunodeficiency virus (HIV) infection. A 24 years old male presented with a cauliflower-like mass on the penis that has been growing slowly for 2 years. Physical examination of the penis revealed a pedunculated reddish verrucous mass, mobile, well-defined, 5x2x1.5 cm in size, and positive acetowhite test. The histopathological picture is in accordance with condyloma acuminata. Surgery with wide margin excision was performed to remove the lump. After 14 days post-surgery, the wound was healed completely without any sign of recurrence.

Keywords: giant condyloma acuminata, wide margin excision, Human papilloma virus

Case Report

Pendekatan Terapi Wide Margin Excision pada Pasien dengan Giant Condyloma Acuminata

Abstrak

Giant condyloma acuminata (GCA) adalah salah satu infeksi menular seksual akibat Human Papilloma Virus (HPV) terutama HPV tipe 6 dan 11. Giant condyloma acuminata merupakan penyakit yang langka dengan insiden sekitar 0,1%. sebaran kasus tertinggi berasa pada usia 25-29 tahun. Prevalensi infeksi meningkat dengan meningkatnya jumlah pasangan seksual, riwayat infeksi klamidia dan gonore, merokok dan infeksi human immunodeficiency virus (HIV). Laki laki usia 24 tahun dengan keluhan terdapat benjolan pada penis berbentuk seperti kembang kol yang tumbuh perlahan – lahan sejak 2 tahun lalu. Pemeriksaan fisik penis didapatkan massa verukosa berwarna kemerahan, bertangkai, mobile, berbatas tegas, ukuran 5x2x1,5 cm, acetowhite test menunjukkan hasil positif. Gambaran histopatologi sesuai dengan condyloma acuminata. Pembedahan dengan wide margin excision dilakukan untuk mengangkat benjolan tersebut. Setelah 14 hari pasca operasi, luka menutup sempurna dan tidak ditemukan tanda rekurensi. Laporan kasus ini bertujuan untuk menjelaskan hasil dan efikasi prosedur wide margin excision pada Giant condyloma acuminata. Pada laporan kasus ini menunjukkan bahwa wide margin excision efektif pada kasus Giant condyloma acuminata.

Kata Kunci: *giant condyloma acuminata, wide margin excision, Human papilloma virus*

INTRODUCTION

Giant condyloma acuminata (GCA), also known as Bushke-Lowenstein tumor, is a sexually transmitted infection in the genital area caused by the Human Papilloma Virus (HPV), specifically HPV types 6 and 11. The penis and anorectum are the most common locations that are involved in GCA. Apart from these locations, GCA may also occur in the inguinal and scrotal area (Loo et al., 2019). Giant condyloma acuminata is often considered as a transition between condyloma acuminata (CA) and squamous cell carcinoma. Although GCAs show benign histopathological features, they tend to be very large thus causing damage to the surrounding tissues (Pineda - Murillo et al., 2019).

Giant condyloma acuminata is a rare case. There are 3-4 million cases estimated annually with the highest prevalence of 500 per 100,000 population at the age of 25-29 years. This disease is 3 times more common in male compared to female. Commonly found in men younger than 50 years. The prevalence of infection increases with more sexual partners, history of chlamydia and gonorrhea infection, smoking, and Human Immunodeficiency Virus (HIV) infection (Pineda - Murillo et al., 2019).

There are several therapeutic modalities that can be used in GCA, both surgical and non-surgical. Choice of treatments are determined with consideration of the number, size, morphology, and location of the lesions. Non-surgical therapy for GCA includes cryotherapy, application of 80-90% trichloroacetic acid, podophyllin, and imiquimod. However, the efficacy is remains unclear (Clanner-Engelshofen et al., 2020). Surgical treatment with wide margin excision is considered the treatment of choice in GCA which aims to completely remove the infected tissue. Surgical therapy for GCA has a high cure rate of between 63-91% and a low recurrence rate compared to other therapeutic modalities (Pineda - Murillo et al., 2019). This GCA case is not as severe as the cases reported in previous studies, but this case is rarely found in Saiful Anwar Regional General Hospital, so this case report was written. The purpose of this case report is to describe the outcome and efficacy of wide margin excision therapy in cases of giant condyloma acuminata.

CASE REPORTS

a 24-year-old male, presented to the Dermatology and Venereology Polyclinic, Dr. Saiful Anwar Malang (RSSA), with a presenting complaint of mass appearing on the left side of the penis. Initially the mass started to appear 2 years ago with a size of 0.5 cm and wart-like rough surface. The wart is not painful with a VAS score of 5/10. However, the lesion was itchy, especially when the wart is pressed or rubbed. The size of the warts persisted for up to 2 months ago, then slowly increased in size accompanied by the appearance of 2 smaller new warts in the surrounding area. As warts getting larger, all these warts coalesce to form one giant wart.

On the past medical history, the patient denied any similar complaints before. Other complaints including ulceration or sores on the penis, general erythematous rashes, and discharge from the genitals are denied. The patient has never gone to any healthcare facility for this condition. The patient also has not received any medication drugs to treat the warts, nor did the patient try to manipulate the warts. In the family history, there is no similar complaint and history of malignancy was denied.

The patient is unmarried and often change partners. The first sexual intercourse was when he was 20 years old. The most recent sexual intercourse was a year ago. The patient has never had sexual intercourse with a commercial sex worker. He never uses condom during sexual intercourse. History of illness and complaint of his sexual partners is unknown.

General examination was within normal limits. Dermatovenereological examination of the penile region revealed reddish papules with verrucous surface, pedunculated, mobile, well demarcated with the size of 5x2x1.5 cm.

Acetowhite test result was positive. Venereal Disease Research Laboratory (VDRL) examinations, Treponema Pallidum Haemaglutination Assay (TPHA) and anti-HIV rapid test results were both non-reactive.

Figure 1. **Dermatovenereological examination.** Reddish verrucous papule size 5x2x1,5 cm

Histopathological examination revealed a papillomatosis structure, lined with acanthotic squamous epithelium, a fibrovascular core was found, and the basement membrane was intact. In the stroma, there were lymphocytes, eosinophils, neutrophils, and koilocytes. Thus, the histopathological concludes a condyloma acuminata. The patient then underwent wide margin excision under local anesthesia with 1 cm clean margin. The whole mass can be removed from the penile shaft. Interrupted suture technique was performed to close the wound using prolene 4.0. Gentamicin 0.1% ointment twice daily was applied to the post-surgical wound. Patient is educated to keep postoperative wounds dry, avoid excessive physical activity, and to use loose pants.

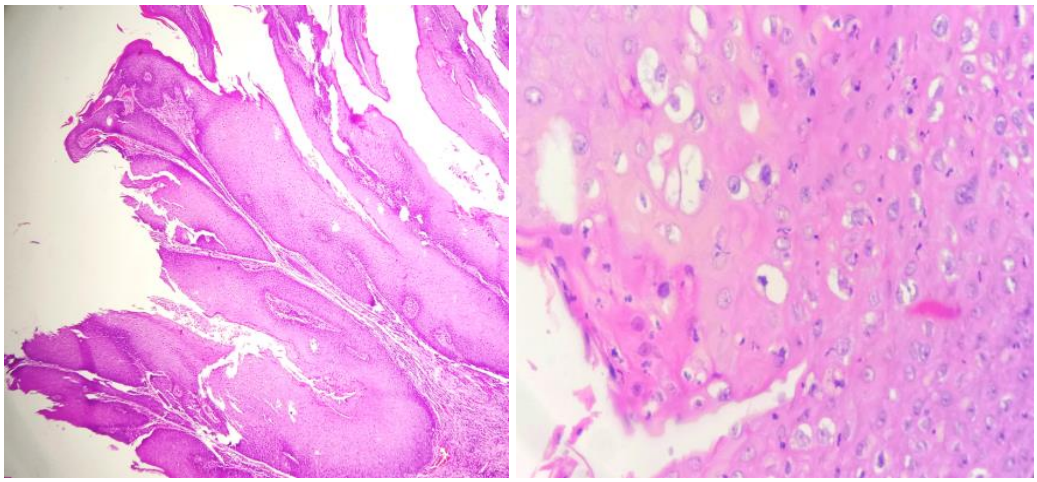

Figure 2. **Histopathologic examination.** (A). Papillomatosis structure. (Red Arrow) (x40 ; H&E) (B). coilocytes. (Blue arrow) (x400 ; H&E)

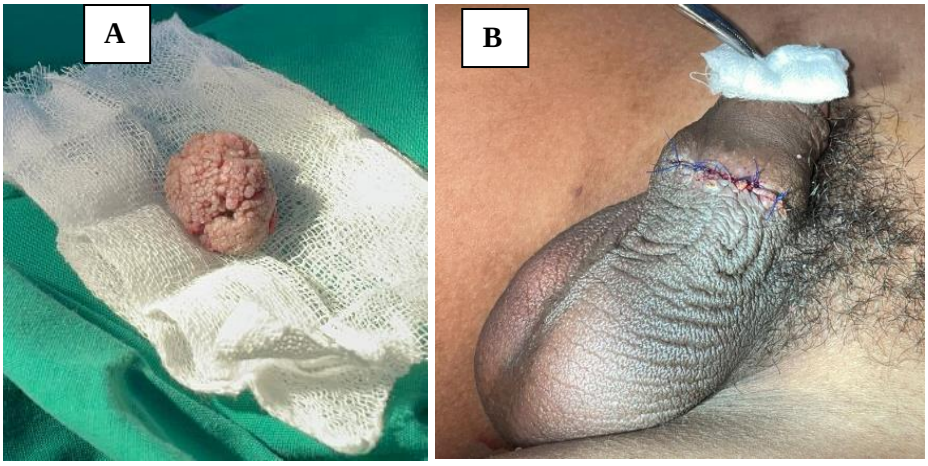

Figure 3. **Post operation. (**A) *Giant condyloma acuminata*. (B) post operation wound with 6 suture

On the 7th day follow-up, the postoperative wound was dry, without any pain, bleeding, or new lesions. Three sutures had come off with an open wound on the medial side. The wound on the lateral side has closed completely. Wound care with 0.1% gentamicin ointment twice daily was continued. On the 14th day, the postoperative wound was dry, without any pain or bleeding. The medial side of the wound was completely closed. Finally, wound care with 0.1% gentamicin ointment was discontinued.

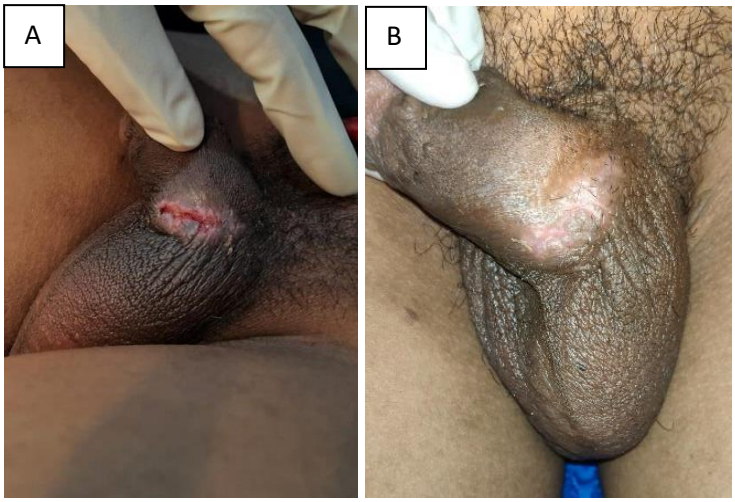

Figure 4. ***Follow Up*. (**A) 7th day follow up. (B) 14th day follow up

DISCUSSION

Giant condyloma acuminata (GCA), also known as Bushke-Lowenstein tumor, is a sexually transmitted infection in the genital area caused by the Human Papilloma Virus (HPV), especially HPV types 6 and 11 (Loo et al., 2019). Giant condyloma acuminata is a rare disease with an incidence of approximately 0.1% in the general population. The lack of standard diagnostic criteria makes it difficult to establish the exact incidence and prevalence of GCA. Every year it is estimated that there are 3-4 million cases of GCA with the highest prevalence of 500 per 100,000 population in the age group of 25-29 years. This disease is 3 times more common in men than women. Usually found in men under the age of 50, however this may also affect children. The prevalence of infection increases with more sexual partners, history of chlamydia and gonorrhea infection, smoking and human immunodeficiency virus (HIV) infection (Pineda - Murillo et al., 2019) (Rohanda et al., 2021).

Human Papilloma Virus (HPV) has 120 genotypes that potentially infect the skin and mucosa. Infection and inoculation of the HPV virus occurs due to micro abrasion. There are two categories of HPV that are classified according to their oncogenesis potential, which are high-risk and low-risk types. Condyloma acuminata is caused by the low-risk HPV types (6, 11, 42, 43, and 44) with HPV types 6 and 11 are responsible for 90% of cases. The HPV genome contains 6 early genes and 2 late genes. Late genes (L1 and L2) encode a spherical capsid that protects the viral DNA from damage and allows the virus to attach to target cells. Early genes (E1, E2, E4, E5, E6, and E7) are responsible for the viral life cycle and oncogenesis. Early genes play an important role in regulatory functions and encode proteins involved in viral replication and cell transformation. Integration of viral and host DNA can result in dysregulation and uncontrolled activation of E6 and E7 genes, which drive transcription of oncoproteins. These two early genes bind and deactivate the tumor suppressor genes p53 and Rb which result in cell proliferation and potential for malignancy. (Fathi et al., 2014)

The patient in this case was a 24-year-old male, with a history of changing sexual partners and having unprotected sexual intercourse. History taking and physical examination did not reveal any thick urethral discharge that led to gonorrhea. The laboratory results also showed non-reactive HIV.

The penis and anorectum are the most common region for GCA to appear in men, while GCA in women more often affects the vulva area. Apart from these locations, GCA can also appear in the inguinal and scrotal area (Loo et al., 2019). Lesions initially appear as keratotic papules or plaques that slowly enlarge to form an exophytic cauliflower-shaped mass that is mobile against fascia and tissue, with the size over 2.5 cm. The lesions may be accompanied by itchiness, pain, and bleeding. Other clinical symptoms including constipation and urinary disturbances may occur secondary to growing GCA that compress the anus and urethra (Nieves-Condoyet al., 2021). Giant condyloma acuminata can infiltrate the underlying tissue resulting in fistulas and abscesses (Hastuti et al., 2018).

Giant condyloma acuminata is often considered as a transitional form between condyloma acuminata and squamous cell carcinoma. Although GCA shows a benign histopathological picture, GCA can be extremely large in size thus destroying the surrounding tissue, especially in those who delay treatment and in patients with HIV infection (Venter et al., 2018).

In our patient, a wart was initially appeared 2 years ago with the size of 0.5 cm, accompanied by the appearance of 2 new warts which then coalesce to form a mass in the penis area with a size of 5x2x1.5 cm, cauliflower-like shaped, mobile, painless, no bleeding, itchy with VAS of 5/10. The mass does not damage the surrounding tissue.

Occasionally, it is difficult to establish diagnosis of GCA only based on clinical features. In GCA lesions that are not extremely large, one may perform 5% acetic acid test which will give a white appearance after being applied to the lesion for 3-5 minutes (Purzycka-Bohdan et al., 2019). In large lesions, it is challenging to differentiate GCA from verrucous carcinoma, which is a variant of squamous cell carcinoma. Therefore, histopathological examination is needed to confirm the diagnosis. The histopathological features of GCA are similar to condyloma acuminata, including papillomatosis, acanthosis, hyperkeratosis, and koilocytic vacuolization in the surface layer of cells (Jovic et al., 2020). The appearance of koilocytes on histopathological examination is characteristic that distinguishes GCA with verrucous carcinoma (Chan, 2019). Histopathological examination in our patient revealed tissue with a papillomatosis structure, covered with acanthosis squamous epithelium, fibrovascular core, intact basement membrane, and koilocyte cells. These findings are in accordance with condyloma acuminata.

There are several therapeutic modalities that can be used in GCA, both surgical and non-surgical. Selection of therapy is based on consideration of number, size, morphology, and location. Non-surgical therapies for GCA include cryotherapy, applications of 80-90%

trichloroacetic acid, podophyllin, and imiquimod, but the efficacy of these therapies is still in doubt (Clanner-Engelshofen et al., 2020). Surgery with a wide margin of excision is considered the treatment of choice for GCA. The goal of surgery is to remove the GCA completely (Thakor et al., 2021). If GCA involves extensively large are, surgery can be performed in several stages (Mandel et al., 2022). Surgical therapy for GCA has a high cure rate between 63-91% and a low recurrence rate compared to other therapeutic modalities (Chenet al., 2020). Post-operative side effects of wide margin excision can occur especially in very large GCAs. Potential adverse effects that may occur are bleeding, scar formation, and anal strictures if GCA involves the anorectal region (Skowrońska-Piekarska, et al., 2015). Our patient underwent surgical treatment with wide margin excision. Wide margin excicion was chosen considering the size of the lesion and is the main treatment option for GCA. There was no significant bleeding during procedure. Patient was informed to keep postoperative wounds dry, avoid excessive physical activity, and to use loose pants. On the 14th postoperative day, the wound was completely closed. There was no new lesion and scar formation observed.

CONCLUSION

A patient diagnosed with GCA underwent a wide margin excision approach to remove the entire tumor mass. Observation at 14 days post-surgery showed the wound has completely closed and no new lesions were found. Therefore, wide margin excision is considered effective as GCA therapy.

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