Multiple Genital Ulcer on a Male Patient Due to Fungal Balanoposthitis Suspect of Candida Albicans Infection Mimicking Genital Herpes: A Case Report

Wresti Indriatmi[1*], Giorgio Barnes Komala[1]
[1]*Department of Dermatovenereology, Medical Faculty of Universitas Indonesia, Jakarta, Indonesia*
**Corresponding author*

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Abstract: Genital ulcer can be caused by an infectious or non-infectious diseases. The appearance of genital ulcer can mimick one to another causative etiologies, so it becomes difficult to differentiate. We report one case of 34-year-old male, uncircumcised, with a painful multiple genital ulcer, he only have a sexual intercourse with his wife, but conduct an oral sex. So our working diagnosis was genital herpes and we treated the patient with valacyclovir 500 mg, twice daily, for 7 days. But turns out, the result of the culture for microorganism was shown an unspecified fungal colonies growth, instead of bacteria. And also, after one-week treatment, the ulcer became more profound and felt itchy rather than pain. We changed our working diagnosis to balanoposthitis due to fungal infection with a suspicion of *Candida albicans*and treated the patient with fluconazole 150 mg, single dose, bifonazole 1% cream and hydrocortisone 1 % cream twice daily. After 5 days with a new regimen of treatment, almost all the ulcer was healed, no itchy or pain sensations. With this case report, we hope that as a clinicians, we can be more careful and thorough in examining a patient with a genital ulcer. A KOH examinations can be a consideration for an additional diagnostic tools.

1 INTRODUCTION

Sometimes, we find a genital ulcer case in our daily practice. This condition can be differentiate by the etiologies, infectious or non-infectious. The most common cause for the infectious etiology are from sexually transmitted infections (STI), such as herpes simplex virus (HSV), syphilis (*Treponema pallidum*), chancroid (*Haemophilus ducreyi*), lympho granuloma venereum (*Chlamydia trachomatis*), fungal infection (e.g., *Candida* species*)* and others. In America, the most common cause of genital ulcer are HSV type 1 and 2, followed by syphilis and chancroid. (Roet MA et al., 2013; Ballard RC, 2008) Usually, ulcer is accompanied with pain or uncomfortable sensation. That's why finding the right etiology in the most efficient time, is so important.

We report one case of genital ulcer that was caused by a fungal etiology. At first, we thought about an atipical genital herpes symptom but later on the manifestations was changed. Balanoposthitis due to candida infection only occurs 20% of all balanoposthitis cases. (Edwards EK et al., 2013).That's why it is quite important for us, as clinicians, to be more careful and examine patient more thoroughly in the future. Thus, we can consider a KOH examination for an additional simple diagnostic tools to make a decision.

2 CASE

A 34-year-old man, Japenese origin, presented with a multiple genital ulcer since 2 days before (Figure 1). He felt moderate pain upon pressure and also uncomfortable sensation while urinating. No history of discharge from urethra. He said that his last sexual intercourse is only with his wife. He also did an oral sex. He hasn't give any topical medicine or taking an oral medication for his conditions. No fever or other prodromal symptoms. On the physical examinations, the penis was uncircumcised and there were multiple ulcers, around 10 – 15 ulcers,

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approximately 1 mm – 5 mm diameters, mostly on the preputium and a few on a coronary sulcus. The ulcer itself was shallow, clean, moist, no induration, confluence, tender, no active discharge, and edema surrounding the ulcer. No lymph nodes enlargement on the inguinal area.

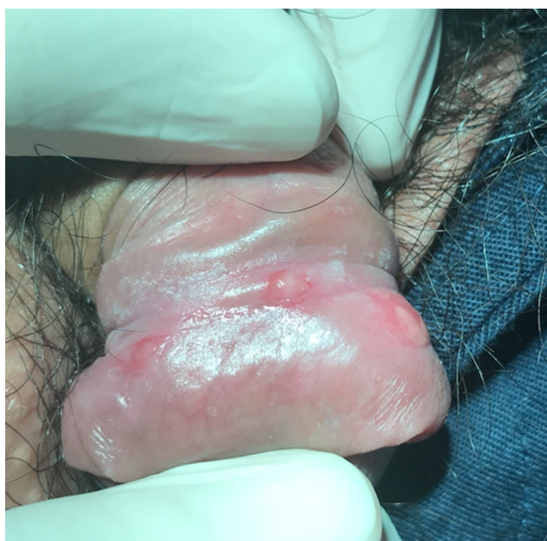

Figure 1.Clinical image of multiple ulcers on preputium and a few on coronary sulcus.

We did some laboratory examinations for this patient, consist of HSV-1 IgM, HSV-2 IgM, VDRL, TPHA, Anti-HIV, resistance and microorganism culture examination from the base of the ulcer, and complete urinalysis. The complete urinalysis just showed a slightly increase in white blood cells count (5-7/Hpf). So, our working diagnosis was initial lesion of genital herpes. We gave him valacyclovir 500 mg, twice daily, for 7 days.

One week later, the patient came for a second visit. The rest of the laboratory result was finished, all were within normal limit except for the resistance and microorganism culture examination, showed an unspecified fungal colonies. He also complains that the ulcer was getting worse, itchy instead of pain and there's an active discharge from his ulcer. He also stated that his wife also complain of itchy in her genital. From the physical examination, the numbers of the ulcers was increased, become a deep red colour, some confluenced with each other, and a thick curdy white-yellowish exudate (Figure 2 and 3). So, we changed our working diagnosis from HSV infection to fungal balanoposthitis, with suspicion of *Candida albicans*infection. We treated him with a single dose of fluconazole 150 mg orally, topical bifonazole 1% cream, twice daily and topical hydrocortisone 1% cream, twice daily. The hydrocortisone was applied right after the bifonazole cream.

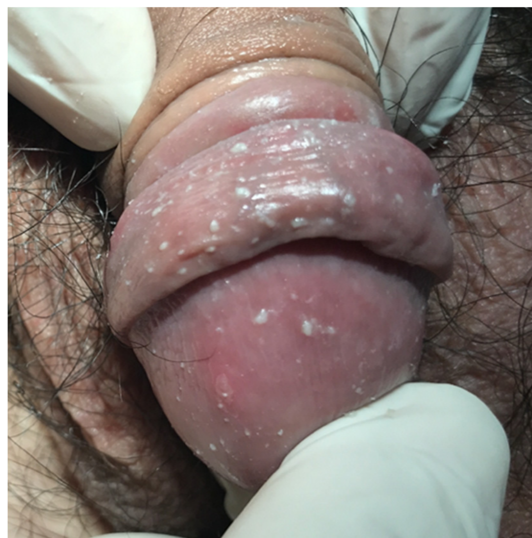

Figure 2.A thick curdy white-yellowish exudates covering most of the glans penis.

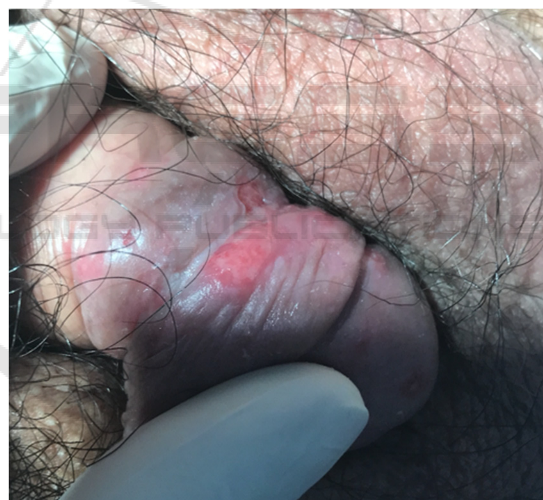

Figure 3. After being cleaned with normal saline, the ulcer was showed more deep red color and there was a few new small ulcers, on the glans of the penis and coronary sulcus.

Five days later, the patient came in again for a follow up. The pain was minimal, no itchy, no discharge and the number of ulcers were less than before. Physical examination showed no ulcer, erythema and discharge (Figure 4). So we considered the treatment was completed.

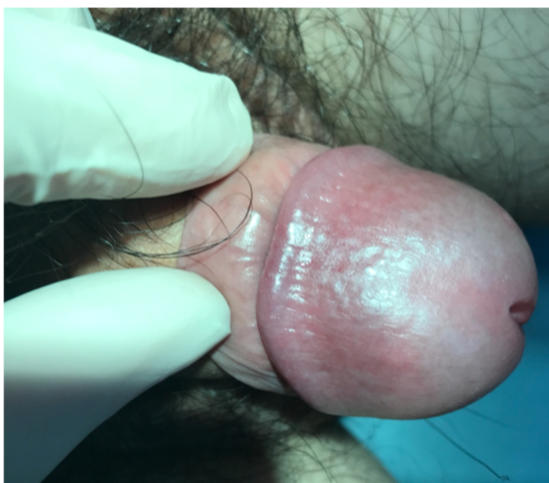

Figure 5. Healed of multiple ulcer after anti fungal treatment.

3 DISCUSSION

A multiple genital ulcer usually caused by sexual transmitted infection (STI), such as HSV, syphilis and chancroid. Risk factors for genital ulcers are lack of male circumcision, multiple sex partners (life time or current), nonrecognition of ulcers in prodormal stage, serodiscordant sex partners, unprotected sexual contact and uprotected skin to skin contact with ulcers. In genital ulcer case, we should ask for more complaints in addition to the symptoms of STI. Moreover, the past medical and sexual history is important to assess the risk behavior of the patient with STI. .(Roet MA et al., 2013; Ballard,2008)

Balanoposthitis is defined as inflamation of the glans or the prepuce.(Edwards EK et al., 2013; Griffiths et al., 2016). A lot of condition can affect the glans condition, from infectious to non-infectious. Infectious etiologies such as *Candida* species, *Streptococci*, anaerobes, *Staphylococci*, *Trichomonasvaginalis*, herpes simplex virus etc. For non-infectious such as, lichen sclerosus, lichen planus, psoriasis, zoon balanitis, eczema to premalignant condition, such as bowen's disease, bowenoid papulosis. (Ballard RC, 2008) But, all cases of balanoposthitis was associated with poor hygine and uncircumcised.(Edwards EK et al., 2013; Habif TP, 2016; Griffiths et al., 2016). In this case, the patient had a history of unprotected sex, he confessed he only have sexual intercourse with his wife. Patient's history matches the risk factors for a genital ulcer and also balanoposthitis.

Genital ulcer has several characteritics according to the causative agent.(Roet MA et al., 2013; Ballard RC,2008; Kundu RV, 2012; Habif TP, 2016; Farida Z 2015). Genital HSV infection usually begins as multiple vesicular lesions, located inside the foreskin, labia, vagina, or rectum. Vesicles may rupture spontaneously, becoming painful, shallow ulcers. Sometimes there's a prodormal symptoms, around 20% of the case. Primary syphilis usually begins with a single, painless, well-demarcated ulcer (chancre) with a clean base and indurated border. Chancroid ulcers are usually deep, nonindurated, bleeds easily, painful and usually cover with yellowish grey exudate. The ulcers occur on the prepuce and frenulum of the penis in men or on the vulva or cervix in women.(Kundu RV et al., 2013; Habif TP, 2016; Griffiths et al., 2016)

Candida balanoposthitis less than 20% of cases of balanoposthitis3, and the most common pathogen is *Candida albicans.*[9] It can give a manifestation as maculopapular lesions with diffuse erythema, edema, ulcerations, and fissuring of prepuce, also itchy sensation.(Edwards EK et al.,2013; Habif TP, 2016 In our patient, with a multiple shallow genital ulcer, painful in the beginning, it's really similar with the herpes simplex ulcer. That's why we diagnosed this patient as genital HSV infection, at first. But later, when the symptoms become itchy and especially the culture showed a fungal growth, it become more convincing to suspect of *Candida albicans*infection.

It's important to determine a causative etiology for genital ulcer. Laboratory evaluation of an initial genital ulcer should include culture or polymerase chain reaction, testing for HSV infection, HSV type-specific serology, serologic testing for syphilis, and culture for *H. Ducreyi*in settings with a high prevalence of chancroid. For candidalbalanoposthitis, the work ups are sub-preputial culture and KOH examinations.[1-3]This patient was done a serology test for syphilis, HSV, HIV, culture examination, gram examinations and complete urinalysis. We didn't do a KOH examination, because of the manifestations, we haven't thought about fungal infection in the first place. But it can be a learning experience for clincians when facing this kind of cases in the future.

The treatment for genital ulcers is depend on the causative agent but for candida balanoposthitis, the recommended topical regimens are clotrimazole cream 1% and miconazole 2% cream. For the alternative regimen, are fluconazole 150 mg[3,10], orally (if the symptom is severe) or nystatin 100.000 units/gram[3] (if resistance or allergy to imidazoles). Although there's one case report in China, 2016, about a *Candida albicans*resistance towards

fluconazole, so they're implied to treat *C.albicans* infection according to the drug sensitivity test.(Hu Y et al., 2017).Topical imizadole can also be applywith hydrocortisone 1% if there's a sign of marked inflammation.(Edwards EK et al., 2013).For this patient we gave himfluconazole 150 mg, single dose, orally, because we thought the discharge from the candida is alot and there's also a marked inflamation around the ulcer. We also gave bifonazole 1% for thetopical antifungal and hydrocrotisone 1% for the inflamation. Balanoposthitis is often reccurenton a poor hygene person, so the main definitive therapy for this is circumcision.(Habif TP, 2016)

4 CONCLUSION

Genital ulcer is just a clinical manifestation which sometimes can be difficult to diagnose properly. Balanoposthitis is an inflamation in glans or prepuce, but turns out, it can also manifest as a genital ulcer. So, when it's confusing to make a diagnosis for genital ulcer, KOH examinations can be considered as additional work up to find the causative etiology of balanoposthitis in the future, especially when the patient is uncircumcised.

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