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Case Report

A Case of Candida Balanitis Masquerading as Herpes Genitalis

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= Abstract =

A 46-year-old male presented with skin lesion on the tip of penis, occurring a month ago. Erythematous macules and grouped vesicles on the glans penis and upper side of prepuce area were noticed. In addition, scales were noticed on the tip of glans penis. The lesion was first diagnosed as herpes genitalis based on the clinical manifestation, but had failed to improve with systemic and topical antiviral and topical antibiotics. KOH examinations were performed on his upper glans penis, and we detected pseudo hyphae and spores. Fungal culture and polymerase chain reaction (PCR) study were revealed as *Candida albicans*. He was successfully treated with topical isoconazole cream twice a day. Candida balanitis refers to candida infections of glans penis. Infectious balanitis presented various clinical presentations, it is not easy to diagnose with clinical presentation only. Therefore, it is essential to include other examination such as KOH examination, microorganism exam, and/or biopsy in the differential diagnosis when cutaneous lesions are noticed in patients. Herein, we present a candida balanitis with atypical features that clinically mimicked herpes genitalis. **[Korean J Med Mycol 2017; 22(4): 167-171]**

Key Words: Balanitis, Candida balanitis, Herpes genitalis, Infectious balanitis

INTRODUCTION

Balanitis is defined as inflammation of the glans penis, which often involves the prepuce[1]. Sarah et al reported that it is a common condition affecting 11% of male genitourinary clinic participants[1]. There is a wide variety of causes and predisposing factors[2,3]. Balanitis is more common among uncircumcised men possibly as a result of poorer hygiene and aeration or irritation[1,2]. Underlying conditions can also predispose to balanitis, which may be more severe form[2]. It has been reported as candida balanitis may be especially severe in patients with diabetes mellitus[2]. In a series of 321 patients with balanitis, 185 were infectious and the majority was

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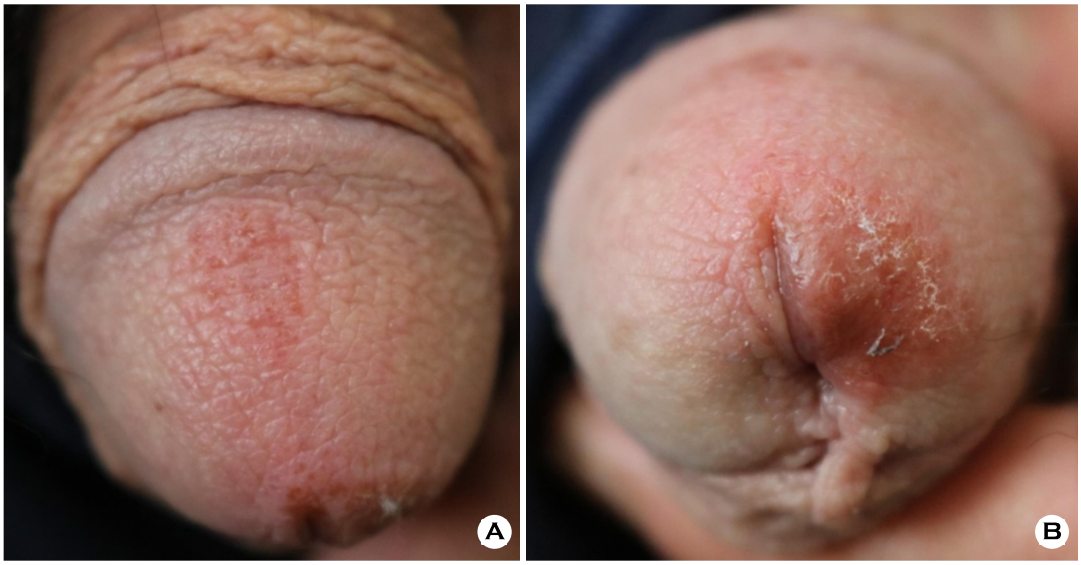

Fig. 1. (A) Erythematous erosions with pruritus on the top of glans penis **(B)** Erythematous erosions with yellowish discharge and scales on the tip of penis

irritable or due to mechanical causes[1,9]. The cause of balanitis varies, but the symptoms are similar and difficult to differentiate[3,4]. Herein, we present a case of a 46-year-old patient with candida balanitis, who was first misdiagnosed as herpes simplex infection, with review of literatures.

CASE

The patient is a 46-year-old male, who had visited dermatologic clinic with complaint of pruritic erythematous macules, vesicles and erosion for a month. Previous treatment included systemic and topical acyclovir and topical mupirocin ointment for 2 weeks under the impression of herpes genitalis, but the symptom had not improved.

Erythematous macules and grouped vesicles on the glans penis and upper side of prepuce area were noticed. In addition, scales were noticed on the tip of glans penis (Fig. 1A, 1B). Lab findings were within normal range. KOH exam was done on the glans penis, and pseudohyphae and spores were

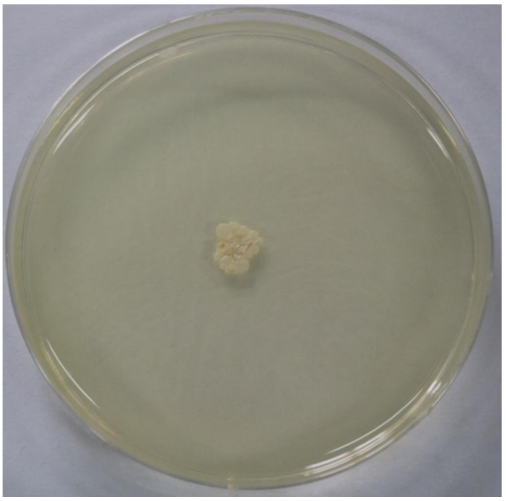

Fig. 2. Colonies with white to cream colored, smooth, glabrous appearance are presented in 48 hours at 25℃ on Sabouraud's dextrose agar plate.

observed. Scales from the lesions were cultured for 48 hours at 25℃ on Sabouraud's dextrose agar plate, revealing colonies with white to cream colored, smooth, and glabrous appearance (Fig. 2). Polymerase chain reaction (PCR) study revealed positive result of *Candida albicans* (Fig. 3).

We confirmed the diagnosis of candida balanitis by *Candida albicans*, and the patient applied topical isoconazole cream twice a day for 2 weeks. The patient has recovered over time and the skin lesion improved with crusted lesion.

DISCUSSION

Candida balanitis is considered to be the most common cause of balanitis and is due to infection with candida species, usually *Candida albicans*[3,6,16]. It is generally sexually acquired carriage of yeasts

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Query  421  TTCAAACTTTGACCTCAAATCAGG  444
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Sbjct  483  TTCAAACTTTGACCTCAAATCAGG  506
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Fig. 3. Alignment of internal transcribed spacer (ITS) sequences of the sample from the patient, The sequences of ITS region of clinical sample were 100% match to that of *C. albicans* strain SC 5314. (GenBank accession number MF979521.1)

on the penis is common, being 14~18% with no significant differences between carriage rate in circumcised or uncircumcised men[1,10]. Significantly more of the female partners of men carrying yeasts were found to have candida infection[2,11,17]. Diagnosis may be on the clinical feature alone, microscopy or culture. Infection may occur without sexual contact, usually in the presence of diabetes of which it may be the presenting symptom, or after the use of oral antibiotics[2,18]. Symptoms are of burning and itching of the penis with generalized erythema of the glans penis which dry glazed appearance, with eroded white papules and white discharge[2,5]. In diabetic patients the presentation may be more severe with edema and fissuring of the foreskin, which may become non-retractile[1,2]. However, this clinical aspect is often nonspecific.

Treatment must be preceded by accurate diagnosis, and clinical features are one of the most important tools of diagnosis. This is especially important in dermatologic disease, where a number of diseases can be diagnosed with characteristic features alone. However, atypical and nonspecific findings may delay diagnosis and mislead the physicians; candida balanitis is one of such examples.

The patient in this case treated for herpes genitalis without any KOH exam, microorganism culture and biopsy for 2 weeks. The 2016 Korean sexually transmitted disease guidelines recommend treatment of herpes genitalis if there are grouped vesicles presented[3]. In guidelines refer to avoid clinical diagnosis if lesions are atypical presentation and make diagnosis with PCR test[3]. However, general practitioner cannot do enough laboratory tests like in general hospital due to lack of facilities and low opportunity cost. Usually general practitioners diagnose inevitably with clinical presentation only.

Bacteria represent the second most common cause of infectious balanitis[2,19]. Such as *Streptococcus* spp., *Staphylococcus aureus*, *Pseudomonas* spp., *Gardnerella vaginalis*, anaerobes, *Treponema pallidum*, *Chlamydia tracomatis*, and *Mycoplasma* spp. have all been reported as causes of balanitis[2,13]. Less commonly reported causes of balanitis are viral and parasitic[2,13]. The clinical features of this disease are slightly different from each other[2,13]. For example, erythematous grouped natured vesicles on glans penis are characteristic features of herpes genitalis. Nevertheless, clinical presentation of infectious balanitis is still nonspecific to confirm the diagnosis.

Our case was the case of candida balanitis, misdiagnosed as herpes genitalis because of signs of erythematous grouped natured vesicles and macules only. These lesions can be seen in other genital disease, so accurate diagnosis by KOH exam, microorganism culture, and/or biopsy is necessary [2,15,16]. Through KOH exam, fungal culture and PCR test, our cases revealed as candida balanitis. We report a case of candida balanitis with features masquerading as herpes genitalis, believing it will help future dermatologic practice.

Conflict of interest

In relation to this article, I declare that there is no conflict of interest.

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