

## A Case of Cheilocandidosis Involving the Upper and Lower Lips

Whiin Lee, Yun Su Eun, Sung Yul Lee and Jung Eun Kim<sup>†</sup>

Department of Dermatology, Soonchunhyang University College of Medicine, Cheonan, Korea

Candidiasis is one of the most common fungal infections affecting the oral cavity, impacting a significant percentage of the general population. Occasionally, the diagnosis of *Candida*-associated lesions can be challenging due to the variety of clinical manifestations. The well-known manifestations of *Candida*-associated lesions in the oral cavity are categorized as acute pseudomembranous candidiasis, acute atrophic candidiasis, chronic hyperplastic candidiasis, chronic atrophic candidiasis, median rhomboid glossitis, and angular cheilitis. However, limited reports have been available on *Candida*-associated lip lesions, apart from angular cheilitis<sup>1</sup>.

A 20-year-old man presented with yellow- to white-colored plaques on his upper and lower lips for three months (Fig. 1A). No other lesions were noted on his oral cavity. He was not immunocompromised and had no underlying diseases except acne vulgaris, which was treated with oral isotretinoin. No evidence of recent infections, other dermatoses, or relevant environmental exposure was suspected. Laboratory tests, including a complete blood count; liver, renal, and thyroid function tests; and HIV tests, were all within normal limits. The plaques developed one month after the administration of oral isotretinoin and persisted for three months without any symptoms. Initially, fungal infection was not suspected; hence, fungal culture and polymerase chain reaction (PCR) were not performed. A skin biopsy was performed on the lower lip to confirm the diagnosis. The punch biopsy revealed hyperkeratotic debris containing numerous fungal hyphae and spores, identifiable through periodic acid-Schiff staining (Fig. 2). Despite the absence of fungal culture

results, the histopathologic detection of hyphae and spores corresponded with *Candida* species, leading to the diagnosis



**Fig. 1.** Yellow- to white-colored plaques on the upper and lower lips in a 20-year-old man (A) Before treatment (B) After treatment with systemic terbinafine and topical flutrimazole

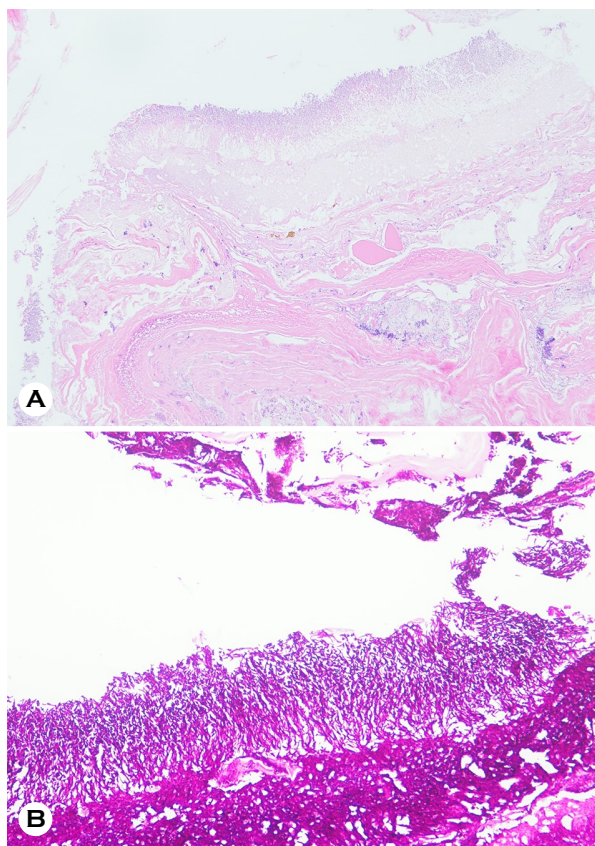
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<sup>†</sup>Corresponding: Jung Eun Kim, Department of Dermatology, Soonchunhyang University Cheonan Hospital, Soonchunhyang University College of Medicine, 31, Suncheonhyang 6-gil, Dongnam-gu, Cheonan 31151, Korea.

Phone: +82-41-570-2270, Fax: +82-41-570-2783, e-mail: freesia0210@naver.com

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**Fig. 2.** Histologic findings of lower lip biopsy: Hyperkeratotic debris containing numerous fungal hyphae and spores (A) Hematoxylin and eosin stain,  $\times 100$  (B) Periodic acid-Schiff stain,  $\times 200$

of cheilocandidosis. Terbinafine 125 mg was administered twice daily, accompanied by topical flutrimazole cream for three months. After the treatment, the lesions completely disappeared (Fig. 1B).

Diagnosing oral candidiasis with typical symptoms is not difficult for experienced dermatologists. However, atypical variants, which do not fit into the traditional categories, complicate the diagnostic process. In a case series of cheilocandidosis, four out of five patients exhibited concurrent angular cheilitis, unlike our patient who had no additional lesions<sup>2</sup>. Given that previous literature on cheilocandidosis has exclusively reported lesions on the lower lip, the occurrence of lesions on both the upper and lower lips in a healthy individual, without any accompanying symptoms, posed a diagnostic challenge in our case. One limitation of this case is our sole reliance on biopsy results and failure to accurately diagnose and treat *Candida* infection through PCR and fungal culture. Although retinoids have recently shown potential

antifungal effects, it is paradoxical that our patient developed cheilocandidosis after isotretinoin treatment. Skin fragility is a known side effect of isotretinoin, and oral candidiasis has also been reported as a side effect<sup>3</sup>. Mucosal disruption, a risk factor for oral candidiasis, may be attributed to the dryness of the mucous membranes, which disrupts the natural microbial balance and colonization resistance<sup>4</sup>. Similarly, reports have shown that retinoid exposure can lead to vulvovaginal candidiasis<sup>5</sup>.

While uncommon, our case highlights that cheilocandidosis can manifest as isolated lip lesions without any other symptoms in young adults. Cheilocandidosis could be considered a possible differential diagnosis in cases that fail to respond to conventional cheilitis treatments.

**Key Words:** Candidiasis, Cheilitis, Cheilocandidosis

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## CONFLICT OF INTEREST

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

## ORCID

Whiin Lee: 0009-0006-9666-2448  
Yun Su Eun: 0000-0003-1542-5995  
Sung Yul Lee: 0000-0002-6995-4561  
Jung Eun Kim: 0000-0002-8399-8456

## PATIENT CONSENT STATEMENT

The patient provided written informed consent for the publication and the use of his images.

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