

## CONTINUING MEDICAL EDUCATION ΣΥΝΕΧΙΖΟΜΕΝΗ ΙΑΤΡΙΚΗ ΕΚΠΑΙΔΕΥΣΗ

---

### Oral Medicine and Pathology Quiz – Case 7

A 55-year-old male was referred to our clinic for evaluation of white lesions in his mouth of one day duration. The patient indicated that the lesions were asymptomatic but complained of intense xerostomia. He was on systemic antibiotic therapy (penicillin) for the last 6 days due to a severe dentoalveolar abscess, also managed by incision and drainage in a hospital. The patient reported atrial fibrillation and hypertension, which were controlled by medications, and was a heavy smoker (50 cigarettes/day).

On clinical examination, removable white plaques, as well as erythematous areas, were noticed on the dorsal surface of the tongue (fig. 1). The same pattern of lesions, although less intense, was seen on the palatal and buccal mucosa. Furthermore, angular cheilitis was noticed bilaterally (fig. 1). No other oral or skin lesions were noticed. A cytologic smear was taken from the dorsal surface of the tongue and was stained with PAS revealing fungal yeasts and hyphae (fig. 2). On the basis of the clinical and laboratory findings, systemic antifungal treatment (fluconazole capsules 100 mg/day), along with intraoral topical antifungal agents (miconazole gel 2%), was administered for two weeks, resulting in significant improvement. In addition, corticosteroid and antifungal cream (hydrocortisone 2% and miconazole 1%) was applied on the corners of the mouth. On the last recall, 4 weeks after the episode, the lesions had disappeared and the patient reported no symptoms.



Figure 1

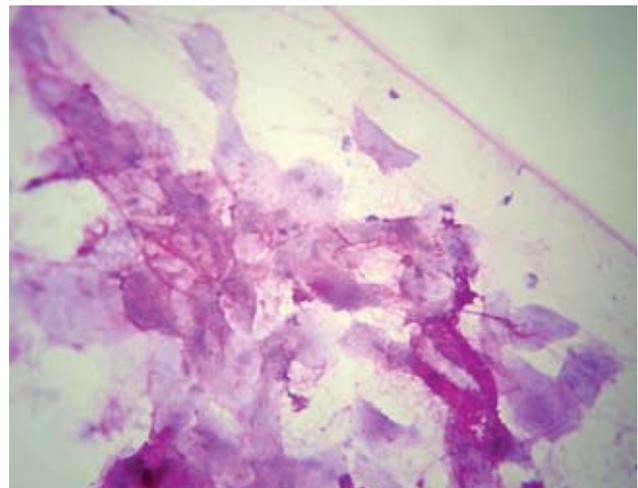


Figure 2

ARCHIVES OF HELLENIC MEDICINE 2009, 26(2):287–288  
ΑΡΧΕΙΑ ΕΛΛΗΝΙΚΗΣ ΙΑΤΡΙΚΗΣ 2009, 26(2):287–288

---

**N.G. Nikitakis,  
G. Kamperos,  
A. Sklavounou-Andrikopoulou**

---

*Department of Oral Medicine and  
Pathology, School of Dentistry, National  
and Kapodistrian University of Athens,  
Athens, Greece*

#### Comment

*Oral candidiasis is a fungal infection caused by Candida species, most commonly C. albicans, which exhibit dimorphism, including relatively innocuous yeasts, and hyphae able to invade the host tissues. These fungi are commonly found among the normal oral microflora, detected in 30–50% of the population with higher frequency in the elderly. Yet, individuals who carry the fungus usually have no clinical signs or symptoms. A disease state is generally believed to represent an opportunistic infection in a susceptible host, but cases of candidiasis have been reported to occur in healthy individuals as well. Nevertheless, the vast majority of cases are seen in patients with systemic and/or topical predisposing factors. Immunodeficiency (caused by malignant neoplasms and their treatment, HIV disease etc.), systemic diseases (such as diabetes, hypoparathyroidism, anemia), nutritional deficiencies, corticosteroid use or antibiotic treatment as in the present case are recognized as systemic predisposing factors. Xerostomia, poor oral hygiene, ill-fitting dentures, high angular palate, reduced vertical dimension and local radiotherapy are recognized as topical predisposing factors. The disease is most often described in young infants and elderly.*

The extent and intensity of the signs and symptoms of oral candidiasis varies from mild to severe, especially in cases of immunocompromised patients. Several clinical patterns are recognized. In the common pseudomembranous type, white, removable plaques that resemble cottage cheese or curdled milk can be observed on any site of the oral mucosa. Removal of these lesions reveal normal or erythematous underlying mucosa. This form generally presents with minimal clinical symptoms. Erythematous candidiasis is characterized by erythematous zones, burning sensation and mild to moderate pain. This form can be further divided in acute atrophic candidiasis, chronic atrophic candidiasis, chronic multifocal candidiasis, median rhomboid glossitis and angular cheilitis. The acute atrophic form is usually caused by broad-spectrum antibiotic therapy, and most often affects the dorsal surface of the tongue. The chronic atrophic candidiasis, also referred to as denture stomatitis, is caused by ill-fitting, continuously used and poorly maintained dentures, and affects the mucosa covered by the prostheses. Chronic multifocal candidiasis affects multiple intraoral sites. Median rhomboid glossitis, originally believed to be of dysplastic origin, has been proved to be a form of candidiasis. Angular cheilitis affects the corners of the mouth, usually on patients with topical (reduced vertical dimension, licking habit) or systemic (immunosuppression, anemia, vitamin deficiencies) predisposing factors. It is often colonized by bacteria, in addition to fungi. Chronic hyperplastic candidiasis is characterized by the presence of white non-removable plaques, often mimicking leukoplakia; a premalignant nature has been ascribed to this form of the disease. Last but not least, mucocutaneous candidiasis usually represents a rare immunologic disorder, where the severe candidal

infections are often associated with endocrine disorders.

The diagnosis of candidiasis is usually based on clinical features and cytologic examination of oral smear, which demonstrates the hyphal phase of the fungi. The pseudomembranous form may be misdiagnosed clinically for lesions of traumatic or reactive nature (e.g. mucosa biting) or coated mucosa. On the other hand, chronic hyperplastic form may resemble other non-wipeable white patches such as idiopathic leukoplakia, hairy leukoplakia and hyperplastic form of lichen planus. Differential diagnosis of the erythematous form includes various entities such as geographic tongue, traumatic lesions, thermal burns, allergic lesions, atrophic lichen planus, erythroplakia, as well as viral or bacterial infection (pharyngitis, scarlet fever etc.).

Antifungal agents, topical and or systemic, are usually administered for 2–3 weeks resulting in the resolution of the lesions, thus confirming the diagnosis. Possible predisposing factors should be discovered and eliminated. In immunocompromised patients, the lesions tend to be more resistant. In cases of hyperplastic lesions that do not subside completely after pharmacologic treatment or when the diagnosis is in doubt, biopsy and histopathologic examination are recommended.

Corresponding author:

N.G. Nikitakis, Department of Oral Pathology and Medicine, School of Dentistry, National and Kapodistrian University of Athens, 2 Thivon street, GR-115 27 Athens, Greece, Tel: +30 210 74 61 003, Fax: +30 210 7461220  
e-mail: nnikitakis1@yahoo.com