



Management of Oral Thrush in an Infant with Cleft Lip and Palate (A Case Report)

Nanan Nur'aeny 

Oral Medicine Department, Faculty of Dentistry, Universitas Padjadjaran, Indonesia

Ahmedz Widiasta 

Child Health Department, Faculty of Medicine, Universitas Padjadjaran, Indonesia

Suggested Citation

Nur'aeny, N. & Widiasta, A.
(2023). Management of Oral
Thrush in an Infant with Cleft Lip
and Palate (A Case Report).
*European Journal of Theoretical and
Applied Sciences*, 1(4), 758-761.
DOI: [10.59324/ejtas.2023.1\(4\).68](https://doi.org/10.59324/ejtas.2023.1(4).68)

Abstract:

Oral candidiasis is the most common human fungal infection seen with a wide range of carrier rates ranging from 2% to as high as 95% among various age groups, especially in children and the elderly, often found in immunocompromised individuals but can also occur in healthy individuals. Although considered a pathogen, *Candida albicans* is a commensal organism that usually colonizes the oral mucosa and is isolated in the oral cavity of healthy individuals. Several risk factors for oral candidiasis in cleft lip and palate patients include changes in oral microflora, variations in hard and soft tissue

anatomy, immunocompromised state, and high number of frequent hospitalizations. *Candida albicans* adhering to the oral cavity can be a cause of infection, however, removal of adherent candida cells from the mucosal surface through the effects of salivary flow and swallowing is the most important factor in preventing candida overgrowth. The aim of this paper is to evaluate the management of oral thrush in infant with cleft lip and palate.

Keywords: *Oral thrush, cleft lip and palate, infant, management.*

Introduction

Oral candidiasis is a fungal infection often caused by *Candida albicans*, which is a normal flora of the oral cavity. The fungus can turn into a pathogen if there is a change in the host. Changes that occur can be local or systemic. Candidiasis lesions can develop throughout the oral cavity. (Vila et al., 2020)

Treatment of oral candidiasis should lead to the identification of the factors underlying the cause of the disease through clinical examination and the patient's medical history. If changes or correction of predisposing factors is not possible/necessary, then drug therapy can be carried out. This case report will discuss the

management of oral thrush in an 11-month-old female infant with lip and palate cleft.

Case Report

History Taking

An 11-month old female infant came with a white lesion in oral cavity.

Extra oral examination: Lip dry.

Intra oral examination: Buccal, labial mucosa, and dorsum of the tongue: white plaques, can be scraped leaving erythema.



Diagnosis and Differential Diagnosis

D/ Oral thrush

Dd/Coated Tongue

Lichenoid Reaction

Oral Leukoplakia



Figure 1. White Plaques on Lips, Labial, Buccal and Dorsum of the Tongue



Figure 2. White Plaques on Labial Mucosa Extending to the Lips

Treatment Plan

Non-pharmacological therapy:

- a. Oral hygiene instruction (OHI)
- a. Explain about oral candidiasis (symptoms, causes, diagnosis, and treatment).
- b. Instruct the parents to clean the child's mouth with gauze moistened with warm water
- c. Instruct the parents to drip nystatin oral suspension into the child's mouth and tongue

Pharmacological therapy:

Nystatin oral suspension, 4 times a day for 1 week (buccal, labial and dorsum of tongue drops, then swallow)

2nd visit (1 week later)

History taking: The mother said that 2 days after using the drug the whites on the lips and oral cavity disappeared. Eating and drinking her child is no longer difficult.



Figure 3. After Treatment, the White Plaques were Healed



Figure 4. After Treatment, the White Plaques were Healed

Discussion

Based on the history taking with the parents, her child has had the flu since 1 week. Since 2 days white appears all over the oral cavity. The parents have tried to clean it with gauze but there

is no improvement. This condition makes it difficult for the child to eat. Extraoral examination revealed suture marks extending from lip to nose from cleft lip treatment. Intraoral examination revealed white plaque that cleared away leaving areas of erythema on all of the labial, buccal, and dorsum of the tongue. The child also uses a feeding plate. Based on the examination results, the diagnosis was made as oral thrush, this is an opportunistic infection that is grouped into primary oral candidiasis and classic candida infection that can occur to anyone. Age is an important factor in the development of thrush where this disease has a prevalence of 5% in infants and 10% in the elderly who are weak or who have chronic diseases. (Sk et al., 2016)

The etiology of this disease is a fungal infection which is a microorganism in the oral cavity. Of the several types of fungi in the oral cavity, *Candida albicans* has the highest number. *Candida albicans* has opportunistic commensal properties as a pathogen if the oral condition is unbalanced which usually occurs when there is decreased immunity, use of certain drugs such as antibiotics, presence of systemic diseases, and poor oral hygiene. (Tovani-Palone, 2016)

In this case, oral thrush was caused by a fungal infection due to decreased immune resistance. Based on the anamnesis, the patient has had the flu since 1 week ago. Influenza itself is a disease of the respiratory tract caused by direct viral infection or the impact of the response of the immune system. (Kalil & Thomas, 2019) In addition, the use of feeding plates can be a predisposing factor for this disease. Tovani, et al., in his research argued that the use of tools in the treatment of cleft lip and palate causes anatomical changes which can sometimes lead to greater accumulation of food debris. (Tovani-Palone, 2016)

Oral thrush has a clinical picture in the form of white or yellowish white plaques with a creamy texture resembling milk or cheese. These plaques consist of desquamated epithelial cells, aggregates of fungal hyphae, fibrin, and necrotic tissue. Pseudomembrane on the superficial surface of the lesion can be removed by

scrapping or gently wiping leaving an erythematous (reddish) surface layer. The oral mucosal surfaces commonly affected are the labial and buccal mucosa, tongue, soft and hard palate, and oropharynx. Symptoms felt by patients in the acute form are usually mild, and patients only complain of a tingling sensation or foul taste. (Sundharam, 2006)

Intraoral examination in this case showed that the white plaque could be cleaned leaving erythematous areas on all the labial mucosa, buccal mucosa, and dorsum of the tongue which became the basis for the diagnosis. The diagnosis in cases of oral thrush or acute pseudomembranous candidiasis is usually established based on the clinical picture of the lesion which has the special characteristic of a pseudomembrane that is easily rubbed and leaves redness. Apart from that, it can be supported by supporting examinations by conducting swabs and mycological examinations to ensure the presence of *Candida* and identify its species. (Femilian et al., 2022)

Management of cases of oral thrush is to administer antifungal drugs, such as: amphotericin, nystatin, and miconazole which have varied formulations and preparations. buccal, labial, and dorsum of the tongue and then swallowed. Nystatin itself is the drug of choice for fungal infections. Nystatin is a polyene active membrane macrolide produced by *Streptomyces noursei* strains in various forms, including oral suspension, topical cream, and oral pastille. Nystatin binds to ergosterol and plasma membranes in fungal pores, causing a reduction in intracellular potassium and functional action. Additionally, autoxidation induced by nystatin induces additional cell damage. Nystatin is a broad range of anti-*Candida* drugs. (Femilian et al., 2022) Nystatin is not absorbed from the gastrointestinal tract when applied orally. Therefore, topical application of nystatin is the most frequently used drug administration in dentistry. In addition, nystatin also has an important role in the prophylaxis of oral and systemic candidiasis in both normal and premature newborns, infants, immunocompromised patients (eg, AIDS patients, cancer patients, and organ

transplant recipients), because it has a high incidence of drug interactions. low and have affordable prices, especially in developing countries.(Lyu et al., 2016)

In addition to pharmacological treatment, patients are also given non-pharmacological treatment, namely OHI, which were given to the patient's parents by providing an explanation regarding the diagnosis and treatment of the disease. In addition, give instructions to clean the patient's mouth with gauze moistened with warm water. According to Sachdeva, et al., for cases in infants who are still breastfeeding, the cleanliness of the pacifier also needs to be maintained.(Sk et al., 2016)

During the control visit, information was obtained that 2 days after using the drug the white lesions on the lips disappeared, the patient could eat and drink without difficulty. When examined, there were no abnormalities, no white plaque. Treatment with nystatin was continued and added with iboost in the form of syrup which was given 1 time a day as much as half a teaspoon. In addition, oral hygiene must also be maintained by diligently cleaning the mouth using gauze moistened with warm water. In some studies, nystatin is given for 10-14 days, some studies also state that nystatin administration should be continued 1-2 days after the lesions have disappeared to reduce the risk of recurrence. Patients are also prescribed immunostimulant drugs (iboost) to increase immunity and accelerate healing.(Sk et al., 2016; Amato, 2023).

Conclusion

The treatment for oral thrush in this infant patient is carried out by administering nystatin which is the drug of choice for fungal infections because of its broad spectrum, low interaction with other drugs, and affordable price. In addition, immunostimulant drugs are also given to increase immunity and accelerate healing.

References

- Amato, A. (2023). Viral Infections of the Oral Cavity in Children. *Children*, 10(8), 1325. <https://doi.org/10.3390/children10081325>
- Femilian, A., Masuku, W. D. M., Ayuningtyas, N. F., Ernawati, D. S., Mahdani, F. Y., & Surboyo, M. D. C. (2022). Clinical appearance of acute pseudomembranous candidiasis in children and the importance of good communication, information and education to patients: A case report. *Dental Journal*, 55(2), 105–108. <https://doi.org/10.20473/j.djmk.v55.i2.p105-108>
- Kalil, A. C., & Thomas, P. G. (2019). Influenza virus-related critical illness: Pathophysiology and epidemiology. *Critical Care*, 23(1), 1–7. <https://doi.org/10.1186/s13054-019-2539-x>
- Lyu, X., Zhao, C., Yan, Z. M., & Hua, H. (2016). Efficacy of nystatin for the treatment of oral candidiasis: a systematic review and meta-analysis. *Drug design, development and therapy*, 10, 1161–1171. <https://doi.org/10.2147/DDDT.S100795>
- Sk, S., Dutta, S., Sabir, H., & Sachdeva, A. (2016). Oral Thrush in an Infant : A Case Report with Treatment Modalities. *Pediatric Dental Care : Open Access*, 1(1), 1–2. <https://doi.org/10.4172/2573-444X.1000106>
- Sundharam, S. (2006). *Shafer 's Text Book of Oral Pathology*. Elsevier.
- Tovani-Palone, M. (2016). Acute Pseudomembranous Candidiasis Front at Cleft Lip and Palate: Are There Additional Correlations? *West Indian Medical Journal*. <https://doi.org/10.7727/wimj.2016.157>
- Vila, T., Sultan, A. S., Montelongo-Jauregui, D., & Jabra-Rizk, M. A. (2020). Oral candidiasis: A disease of opportunity. *Journal of Fungi*, 6(1), 1–28. <https://doi.org/10.3390/jof6010015>