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Case Report (Pages: 485-487)

Onychomycosis: A Rare Presentation of Fungal Urinary Tract Infection (UTI) in Extremely Preterm Neonate

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Abstract

Onychomycosis (also known as dermatophytic onychomycosis or tinea unguium) refers to nail infections caused by any fungus, including yeasts and Non-dermatophyte Molds (NDMs). Fungal infection has emerged as an important cause of neonatal infections with significant morbidity and mortality, especially in extremely low and very low birth weight infants. We report a 24-day-old boy who presented with onychomycosis on left ring finger nail associated with fungal urine tract infection. Nail finding helped us in detecting fungal Urinary Tract Infection (UTI). Further studies are needed to evaluate the etiologies and treatment of neonatal onychomycosis, and dermatologists should pay attention to this rare event. Hence we are reporting this rare case.

Key Words: Neonate, Oychomycosis, Tinea unguium, UTI.

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Introduction

Onychomycosis refers to nail infections caused by any fungus, including yeasts and non-dermatophyte molds. One or several of the toenails or fingernails may be involved, seldom all. Many cases of fingernail onychomycosis are due to yeast. Fungal infection has emerged as an important cause of neonatal infections with significant morbidity and mortality, especially in extremely low and very low birth weight infants, defined as birth weights below 1000 g and 1500 g, respectively. We report a 24-day-old boy who presented with onychomycosis on left ring finger nail associated with fungal urine tract infection (1-5).

Case Report

A male preterm (28 weeks) very low birth weight baby (birth weight 1,100 gram), was in Neonatal Intensive Care Unit (NICU) since birth. Baby had hyaline membrane disease, needed short ventilation of approximately 2 days. He had umbilical venous line and received total parenteral nutrition for 7 days. Baby was on full orogastric tube feeds by day 10 of life. He received antibiotics for 5 days. His immediate postnatal course was uneventful. He had apnea of prematurity. Baby had evolving chronic lung disease, hence needed oxygen. On day 24 of life in view of respiratory distress and recurrent episodes of apnea, his septic work up was done. Hemogram was normal, C-reactive protein (CRP) was positive. On day 26 he was noticed to have thick discolored yellow nail of left ring finger suggestive of onychomycosis as shown in (Figure.1).

Nail scrapings were sent for KOH mount, microscopy and culture, it was sterile. Urine sent with all aseptic precautions showed fungal hyphae. Urine and blood culture was sterile. In view of fungal urinary tract infection and onychomycosis, baby was given Fluconazole Intravenous (IV fluconazole) for 14 days. The patient improved rapidly upon administration of intravenous fluconazole. The nail lesion cleared; urine culture was sterile. Baby was discharged on day 56 of life. At discharge, there had been no recurrence or other systemic squeal.

Fig.1: Left ring finger onychomycosis

Discussion

Fungal infection has emerged as an important cause of neonatal infections with significant morbidity and mortality, especially in extremely low and very low birth weight infants, defined as birth weights below 1000 g and 1,500 g, respectively (1,2).

The clinical manifestations of Candida infection in the neonate vary, ranging from localized infections of the skin and mucous membranes to life-threatening systemic infection with multisystem organ failure. Host risk factors, such as prematurity and the use of invasive procedures, are important determinants that influence the severity and type of neonatal Candida infection (3-5).

In present case, baby was at risk of fungal infection. He had fungal UTI and onychomycosis. He responded to fluconazole treatment (6, 7). KOH stands for potassium (K), oxygen (O), and hydrogen (H) examination of scrapings from the nail bed to demonstrate dermatophytic hyphae and arthrospores is the best means of confirming the diagnosis

of proximal and distal onychomycosis in patients with a suggestive clinical picture.

The specificity of KOH examination for the diagnosis of fungal involvement is high, but the sensitivity is variable. In present case, we could not find fungus from nail scrapings. We could not find relevant literature.

We could not correlate association of onychomycosis with neonatal fungal UTI. However nail finding helped us in detecting fungal UTI. Hence retrospectively we say that onychomycosis was presentation of fungal UTI. To date, there have not been reports suggesting onychomycosis as a presentation of fungal UTI. Further studies are needed to evaluate the etiologies and treatment of neonatal onychomycosis, and dermatologists should pay attention to this rare event.

Conclusion

Onychomycosis refers to nail infections caused by any fungus. Many cases of fingernail onychomycosis are due to yeast. Present case presented with onychomycosis on left ring finger nail associated with fungal urine tract infection. Nail finding helped us in detecting fungal urinary tract infection. Further studies are needed to evaluate the etiologies and treatment of neonatal onychomycosis, and dermatologists should pay attention to this rare event. Hence we are reporting this rare case.

Conflict of interest: None.

Contributions

Case report preparation and literature search by Dr Kalane Shilpa; Manuscript editing and manuscript review by Dr Pitkar Sumeet and Dr Rajhans Arti.

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