Case Report :

Congenital Candidiasis in a Newborn

Shrabani Mandal *, Mukut Banerjee*, Asim Kumar Mallick**

*Assistant Professor, **Professor, Department of Paediatrics, NRS Medical College& Hospital, 138, A.J.C. Bose Road, Kolkata 700014. E-mail : asmi_mallick2004@yahoo.com
Corresponding Author: Dr. Shrabani Mandal, Assistant Professor, Department of Pediatrics, NRS Medical College & Hospital,Kolkata. Email: drshrabanimandal@ gmail.com
Received: October 17,2017; **Reviewed:** December 21,2017; **Accepted:** January 6,2018
Citation of article: Shrabani Mandal, Mukut Banerjee,Asim Kumar Mallick. Congenital Candidiasis in a Newborn

Abstract:

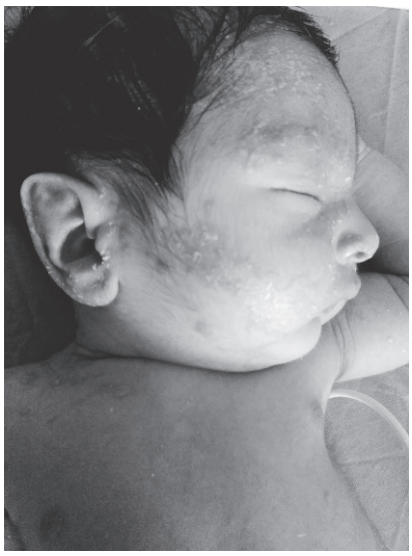
Congenital candidiasis (CC) is an extremely rare disease with less than 100 cases being reported in the literature. It presents within six days of life with manifestations ranging from localized skin disease to systemic involvement in the form of respiratory distress, sepsis with hepatosplenomegaly, and death. We report a neonate who presented with diffuse pustular eruption on erythematous background involving head,face, trunk, and palms at birth. Candida albicans was identifi ed in 10% potassium hydroxide (KOH) smear and culture from the pustules. Intrauterine infection by candida may give rise to this condition and it differs from neonatal candidiasis, which manifests as thrush or diaper dermatitis. Intravenous fl uconazole and topical ketoconazole were given and the condition improved completely in two weeks. CC is rare and needs to be differentiated from other conditions presenting with pustular lesions at birth in order to avoid complications. Early diagnosis and prompt treatment of this condition is important as untreated cases carry a significantly high mortality rate of 8-40%.

Key words: congenital cutaneous Candidiasis, fluconazole, pustular eruption

Introduction: Congenital candidiasis (CC) is rare and usually caused by intrauterine candidial infection and manifests within first 6 days of life.[1]Newborn babies usually develop mucocutaneous candidiasis,which is usually acquired during the process of child birth.CC presenting at birth is very uncommon. It may be localized involving only skin or generalized resulting in respiratory distress, meningitis, sepsis, and death. [2] A total of 10-35% of the women suffer from candidial vagintis during pregnancy, but less than 1% of them develop candidial chorioamnionitis that can affect the fetus.[3]This is why CC is so rare and only 100 cases have been reported in the literature so far. Herein we report a case of CC presented at birth.

Case Report:

A late preterm (36 weeks), baby boy weighing 2.75 kg delivered by normal vaginal delivery was referred to our SNCU with pustular lesions on erythematous background all over the body (figure1). Mother noticed erythema over face, neck and upper trunk within few hours after birth, followed by the appearance of pustular lesions on it in next 12-16 h. Scalp, back of trunk; extremities were involved by the second day(figure2). There was no associated fever or systemic symptoms. Mother was 25year-old, primi para without any history of dribbling prior to onset of labour. His white blood cell count was15,000/mm3with 45% polymorphonuclearcells,30%lymphocytes,CRP was normal. Chest radiograph was normal.



F. Figure 1 - Macular lesions

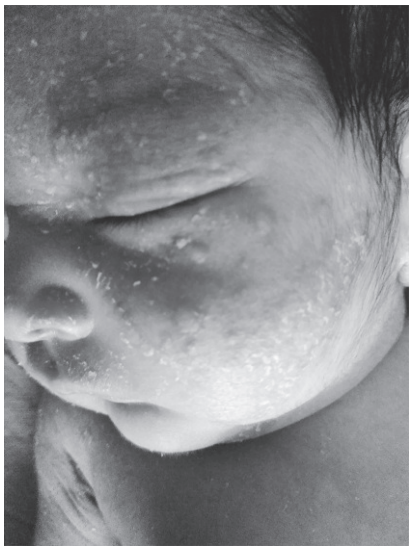


Figure 2 - Pustules on face

Scrappings of the lesion showed budding yeast cells.Topical antifungul therapy was started but response to treatment was not satisfactory. We consulted the case with colleagues of Dermatology Department. They advised to give systemic antifungul therapy for 14 days. In the absence of systemic manifestations, topical antifungal therapy is the treatment of choice for congenital cutaneous candidiasis in full term infants.CC in preterm infants can progress to systemic disease, and therefore systemic therapy is warranted. [4]

Discussion:

CC is a very rare condition which presents at birth or within first 6-7 days after birth and generally represents maternal chorioamnionitis occurring either from birth canal as an ascending infection or as transplacental infection.[5]The latter is rare and cause extensive visceral involvement mainly liver. Ascending infection may occur either from subclinical rupture of membranes or even through intact membranes resulting in whitish plaques on the membranes and umbilical cord along with skin lesions, described classically as "white dots on placenta and red dots on baby."[6]Ascending infection was more likely pathogenesis in our case.

Various risk factors like <27 weeks of gestation age, Wt <1000 g, intrauterine device, cervical sutures, invasive procedures, and extensive instrumentation have been reported. [7] The role of maternal steroids or immunodeficiency in the infant is controversial.

Congenital candidiasis manifest at birth or within a few hours of birth as extensive erythematous maculopapular eruption on head, trunk, and extremities that progress to vesicles and pustules on erythematous base in 1-3 days. Bullae may occur rarely.Palmar and plantar pustules are considered as hallmark of the disease, but mucosa and napkin area are spared.Onychia and paronychia may occur and rarely Congenital candidiasis may be limited to nails. [8]

Scalded or burn-like appearance of skin lesions may herald systemic involvement.[9] Severe involvement of gastrointestinal and respiratory tract can occur due to aspiration of infected amniotic fluid that culminates in candidial septicemia manifesting as bronchopneumonia, meningitis, arthritis, endocarditis with microabcess in liver, brain, kidneys, or spleen. Features like respiratory distress, leucocytosis with left shift, persistent hyperglycemia, glycosuria, positive cultures from blood, urine, cerebrospinal fluid (CSF), and burn-like skin lesions suggest systemic

involvement.Although no well-powered randomized controlled trials exist to guide length and type of therapy, 21 days of systemic antifungal therapy from the last positive candida culture is recommended in infants. Antifungal therapy should be targeted based on susceptibility testing. Due to the relatively low sensitivity and long delay of blood cultures for yeasts, more recent tests focus on structural membranes of Candida by enzyme immunoassay of mannan antigens and antibodies. [9]Neonatal candidiasis typically manifests after 6 days of life and differs clinically from Congenital candidiasis. Congenital candidiasis should be differentiated from various other diseases presenting with pustules in the newborn.

Conclusion:

Congenital candidiasis is very rare and needs to be differentiated from various diseases presenting with generalized maculopapular or pustular lesions at birth in order to avoid complications. Early recognition and prompt diagnosis will help in the successful management of the condition

References:

1. Melville C, Kempley S, Graham J, Berry CL. Early onset systemic Candida infection in extremely preterm neonates. Eur J Pediatr. 1996; 155:904–6. (PubMed)
2. Khambadkone SM, Dixit KM, Divekar A, Joshi SM, Irani SF, Desai M. Congenital Candidiasis. Indian Pediatr. 1996;33: 512–6.(PubMed)
3. Darmstadt GL, Dinulos JG, Miller Z. Congenital cutaneous candidiasis: Clinical presentation, pathogenesis, and management guidelines. Pediatrics. 2000;105:438–44. (PubMed)
4. Ericson J, Smith RB, Daniel K, Benjamin Jr. Candida Infection In: kliegmanRM, StantonBMD, St.Geme J, Schor N, Behrman RE, eds. Nelson Textbook Of Pediatrics 20th ed.Philadelphia: Elsevier Saunders; 2016.pp.1515-1518.
5. Blanc WA. Pathways of fetal and early neonatal infection: Viral placentitis, bacterial and fungal chorioamnionitis. J Pediatr. 1961;59:473–96. (PubMed)
6. Diana A, Epiney M, Ecoffey M, Pfister RE. "White dots on the placenta and red dots on the baby": Congenital cutaneous candidiasis--a rare disease of the neonate. Acta Paediatr. 2004; 93:996–9. (PubMed)
7. Benjamin DK, Stoll BJ, Gantz MG,et al.Neonatal candidiasis: epidemiology,risk factors and clinical judgement. Pediatrics 2010;126(4):e865-e873.
8. Jagtap SA, Saple PP, Dhaliat SB. Congenital cutaneous candidiasis: A rare and unpredictable disease. Indian J Dermatol 2011;56:92-3.
9. Reiss E, Morisson CJ. Nonculture methods for diagnosis of disseminated candidiasis. Clin Microbiol Rev 1993;6:311-323 (Abstract).