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Case Report

All rashes in the neonatal period are not benign: a rare case of congenital cutaneous candidiasis in a neonate with cholestasis

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ABSTRACT

Neonatal rashes manifest in various forms-papular, pustular, vesicular, or bullous lesions-and both their morphology and the day of onset provide key diagnostic clues. Benign causes include erythema toxicum neonatorum, transient pustular melanosis, miliaria. It is important to distinguish them from pathological causes like bullous impetigo, neonatal herpes, neonatal varicella or genetic conditions. In this report, we describe a case of congenital candidiasis, presenting with generalized rash with varied morphology and had systemic involvement in form of cholestasis. A systematic approach with proper history, general examination and investigations leads to early diagnosis and reduces morbidity in these babies.

Keywords: Newborn, Congenital candidiasis, Neonatal rash, Cholestasis

INTRODUCTION

Neonates present with varied morphology of rash-maculopapular to vesicular and bullous picture. The diagnosis depends on the morphology, distribution, age of onset of lesions and presence of systemic features.[1] Congenital cutaneous candidiasis (CCC) is a rare intrauterine fungal infection seen in neonates in the first week of life. It presents with manifestations ranging from localized skin disease to systemic involvement in the form of respiratory distress, sepsis, and death.[2]

The prevalence of candidal vaginitis during pregnancy ranges from 10% to 35%, whereas candidal chorioamnionitis is an uncommon complication, affecting fewer than 1% of affected women, with potential fetal involvement.[3] While often self-limiting, untreated infection can cause serious systemic disease in preterm and extremely low birth weight (LBW) infants.

CASE REPORT

We describe a case of a full-term male neonate with gestational age 38 weeks, birth weight 2.3 kg, small for gestational age (SGA), born to a primigravida mother, with no significant perinatal history. There was no history of vaginal discharge or preterm rupture of membranes. The baby presented on day 7 of life with yellowish discoloration of body extending up to the legs. Parents also complained of rash over the trunk and extremities, onset since day 5 of life. On examination, baby had erythematous maculopapular and pustular rash over trunk, extremities, axilla, groin with areas of desquamation (Figure 1). Icterus was present, extending to the palms and soles. Systemic examination was normal. Possibility of erythema toxicum neonatorum, staphylococcal infection, herpes or candida infection was considered.[4,5] Investigations showed leukocytosis with conjugated hyperbilirubinemia with transaminitis (as shown in Table 1). Urine microscopy was normal and

culture was sterile. Chest X-ray, ultrasound cranium and abdomen were unremarkable.

In view of generalized rash with multiple papular and pustular lesions with desquamation, cutaneous candidiasis was considered. KOH smear showed multiple budding spores and pseudo hyphae confirmative of cutaneous candidiasis. Baby had extensive rash with systemic involvement in form of transaminitis, so systemic antifungal therapy was considered. The baby was managed with intravenous fluconazole at dose of 12 mg/kg/day and topical therapy with 1% clotrimazole, with gradual resolution of skin lesions by end of one week. Fluconazole was continued for 2 weeks. Blood culture was sterile. On follow up at 4 weeks there was complete resolution of skin lesions and weight gain was adequate.

Table 1: Investigations in index case.

Investigations	Result (Normal values)
Total leukocyte count	18,210/mm³ (5,000-20,000/ mm³)
Absolute neutrophil count	8,174/ mm³ * (<1800 is abnormal)
Platelet count	3.4 lakhs/mm³ (1.5-4.5 lakhs/ mm³)
C-reactive protein	0.8 mg/l (<1 mg/l)
Total bilirubin	16.1 mg/dl* (compared with age specific AAP charts for phototherapy)
Direct (conjugated) bilirubin	2.24 mg/dl (<1 mg/dl)
Indirect (unconjugated) bilirubin	13.86 mg/dl
Aspartate transaminase	88 IU/l (22-60)
Alanine transaminase	75 IU/l (22-45)

*Varies with postnatal age and gestation of babies

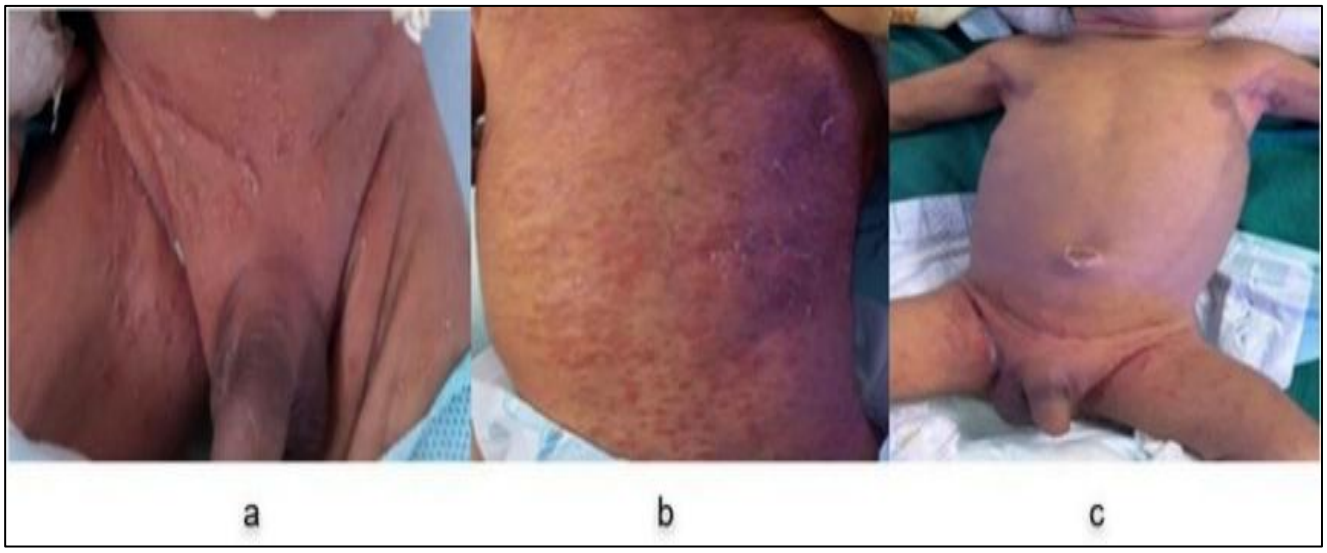

Figure 1 (A-C): Neonate with maculopapular rash, pustules, skin peeling seen in groin (A), trunk, back and extremities (B), resolution of skin lesions by the end of one week (C).

DISCUSSION

CCC is a rare invasive fungal infection, seen in preterm and LBW neonates within the first week of life.[6,7] A diffuse rash with varied morphology is seen, appearing as generalized peeling, desquamation, burn-like dermatitis, maculopapular rash or rarely pustules or vesicles.[5] Risk factors include preterm babies, vaginal candidiasis in mother, presence of intrauterine device (IUD) or invasive procedures during pregnancy. Presence of burn-like dermatitis, signs of sepsis or isolation of candida species in blood, urine or cerebrospinal fluid warrant systemic therapy.[8] Early treatment with systemic therapy for two weeks prevents systemic dissemination, leads to early recovery and reduces mortality in preterm and LBW babies.[9] The clinical course is usually benign and there is excellent response to antifungal therapy.

CONCLUSION

Physicians must consider non-benign causes of neonatal rashes in sick cases with atypical presentation. Cutaneous candidiasis is a benign self-limiting infection, which if treated early can prevent systemic dissemination.

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