

Miliaria crystallina-congenital form; a rare but benign entity – A case report



Biswajit Biswas¹, Arka Karmarkar², Krishnendu Bandyopadhyay³, Sayan Chatterjee⁴, Subrata Ghosh⁵, Rohit Ishan⁶, Subhadeep Bag⁷, Naman Sankhala⁸, Atreyee Sinha⁹, Chayanik Ghosh¹⁰, Amalesh Gorai¹¹

¹Professor, ⁴Associate Professor, ³Assistant Professor, ²Senior Resident, ⁵Medical Officer, ^{6,7,8,9,10,11}Junior Resident, Department of Pediatric Medicine, Prafulla Chandra Sen Government Medical College, Hoogly, West Bengal, India

Submission: 06-02-2025

Revision: 02-03-2025

Publication: 01-04-2025

ABSTRACT

Miliaria results from blockage of eccrine sweat ducts with leakage into epidermis or dermis. Miliaria crystallina (MC) is a distinct form presenting mostly in newborns younger than 2 weeks. Congenital (i.e., present at birth) MC is extremely rare. Very few cases have been reported till date. We report on such a case where mother apparently did not have any complication during pregnancy or at the time of childbirth. This is a very benign condition, but it closely mimics some serious skin infections and vesiculo-bullous eruptions at this age.

Key words: Miliaria; Crystallina; Neonatal; Congenital

Access this article online

Website:

<https://ajmsjournal.info/index.php/AJMS/index>

DOI: 10.71152/ajms.v16i4.4448

E-ISSN: 2091-0576

P-ISSN: 2467-9100

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INTRODUCTION

Miliaria is a common disorder of eccrine sweat gland. It results from blockage of its gland or duct at varying depth.¹ When the blockage happens most superficially into the stratum corneum, miliaria crystallina (MC) manifests.² This commonly affects neonates younger than 2 weeks or adults who are febrile or who recently moved to a topical climate.^{3,4} The condition is usually benign and does not warrant any intervention. MC may however, be easily confused with some serious skin infections like herpes simplex, varicella, syphilis, candidiasis and staphylococcal scalded skin syndrome, or some bullous neonatal eruptions.⁵ Hence, it is of utmost importance for the neonatologist and pediatricians to know about this entity and make a correct diagnosis to alleviate

anxiety of the family members and to avoid therapeutic misadventures.

CASE REPORT

This 36 week, 2.25 kg baby was born out of a non-consanguineous marriage to a primigravida mother aged 27 by elective cesarean section. Mother was on L-thyroxine and maintained euthyroid status. She harbored beta-thalassemia trait. Antenatally, she was a booked case, and she denied of any complication. Baby cried right at birth and did not require any resuscitation. Apgar score at 1, 5, and 10 min was 9, 9, and 10, respectively. Vital parameters and systemic examination were essentially normal except for skin eruptions found right after delivery of the newborn.

Address for Correspondence:

Dr. Biswajit Biswas, Ulhas Mini Township, 1st Avenue, 11th Street, House - 23, Bardhaman East, West Bengal - 713104, India.

Mobile: +91-9874179931. **E-mail:** drbiswazetbiswas@gmail.com

Examination of skin revealed confluent, clear, superficial vesicles measuring 1–3 mm around face, neck, and upper part of the trunk (Figure 1).

The vesicles contained clear watery fluid and there was no surrounding erythema. Complete blood count, C-reactive protein, serum electrolytes, and blood cultures were normal. Gram's stain did not show presence of any bacteria and Tzanck smears failed to show any acantholytic cells or neutrophils. Diagnosis of congenital MC was made. Baby was moved to cooler environment and family members were advised to administer calamine followed by an emollient twice daily on affected surfaces. The lesions started rupturing from 2nd day with superficial desquamation. On day 4, the vesicles dried up; and on day 6, most the affected area looked normal (Figure 2).

DISCUSSION

Miliaria results from retention of sweat in blocked eccrine glands or ducts. This is classified into three types depending on where in the duct obstruction happens.¹⁻³ When involvement is more superficial involving stratum corneum, MC is manifested. Tiny, clear, fragile, and confluent vesicles are found. Obstruction deeper within epidermis results in extremely pruritic, erythematous miliaria rubra. When pustules develop in these lesions, the term miliaria pustulosa is used. When obstruction is even deeper into dermal-epidermal junction, sweat leaks into papillary dermis and produces subtle flesh colored papule. This is profunda variant.

MC is a temporary self-limited condition caused by extravasation of sweat into epidermis following blockage at gland or duct somewhere. The condition is triggered by hot, humid climate and is not uncommon in neonatal period. Congenital form, however, is very uncommon. Maternal fever before delivery, chorioamnionitis, and moist environment of amniotic fluid may contribute toward such phenomenon. Babu and Sharmila⁶ presented such a case where mother had an episode of respiratory illness with fever 1 week before delivery. Dixit et al.,⁷ presented one more case where mother had a febrile episode 3 days before delivery. In case of ours, mother apparently did not have any feature of infection or fever before delivery. Straka et al.,⁸ presented the first case and suggested that immaturity of the sweat gland and duct during first few days or weeks may be the reason of obstruction.

The differential diagnosis of MC includes several infections and bullous dermatoses. Examination of



Figure 1: Fine, clear water filled vesicles around face, neck, and upper trunk at birth



Figure 2: Skin looks normal on day 6

the form and color of the blisters help to identify the lesion correctly.⁹ Serosus vesicles are found in varicella and herpes simplex. Neonatal pustular melanosis, acropustulosis, and erythema toxicum show presence of pustules. Staphylococcal scalded skin syndrome and larger blisters are, however, easy to differentiate. Most important feature of the blister in congenital MC is that color of the fluid is clear like water and there is no surrounding erythema.

Congenital MC is a benign clinical condition and does not require any treatment. Moving the child to a cooler place; avoiding occlusive dressings; and application of calamine, emollients or boric powder might be advocated.⁶⁻⁸

CONCLUSION

We emphasize that most of the neonatal skin eruptions are benign. This holds true for congenital MC also.

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Authors' Contributions:

BB and AK- Concept, manuscript writing and critical revision; **KB, SC, SG, and RI-** Compilation of records, review of literature; **SB, NS, AS, CG, and AG-** Manuscript editing.

Work attributed to:

Department of Pediatric Medicine, Prafulla Chandra Sen Government Medical College, Arambag, Hoogly, West Bengal, India.

Orcid ID:

Dr. Biswajit Biswas -  <https://orcid.org/0000-0002-9179-3098>

Source of Support: Nil, **Conflicts of Interest:** None declared.