PedsCases Podcast Scripts

This podcast can be accessed at www.pedscases.com, Apple Podcasts, Spotify, or your favourite podcasting app.

Benign Neonatal Dermatoses

Developed by YuQi Wu and Dr. Allison Gregory for PedsCases.com.
July 05, 2025

Introduction:

Hi everyone! My name is YuQi Wu, and I am a medical student at the University of British Columbia. This PedsCases podcast was created with support and guidance from Dr. Allison Gregory, a dermatologist practicing at BC Children's hospital. This podcast is designed to give you an approach to some benign neonatal dermatoses, specifically erythema toxicum neonatorum (ETN), neonatal milia, and harlequin color change.

Learning objectives

By the end of this podcast, you will be able to

1. Define and describe the clinical presentation of some benign neonatal dermatoses, specifically ETN, neonatal milia, and harlequin color change,
2. Describe the etiology and pathophysiology of these benign neonatal dermatoses,
3. Review differential diagnoses and management strategies for these benign neonatal dermatoses,
4. Counsel caregivers on these benign neonatal dermatoses.

Clinical case:

You are a third-year medical student on your pediatric rotation in the hospital and you meet Mia, a term baby girl born 48 hours ago. Dad noticed a red rash on Mia and asks you to take a look. On examination, you note that Mia is well appearing with stable vitals, but on her face and trunk, you notice diffuse clusters of erythematous papules and pustules on ill-defined erythematous bases; her soles and palms are spared. The mum was up to date on all her vaccinations and does not have a history of herpes.

What is Erythema Toxicum Neonatorum (ETN)?

ETN is a common benign, evanescent skin eruption that typically occurs in full-term infants[1]. ETN seems to affect more males than females and occurs less often in infants <2500 grams. The exact etiology remains uncertain, but may be due to allergic response given significant amount of eosinophils in the skin lesions[1]. ETN appears as erythematous macules and papules that can evolve into pustules, which waxes and wanes, beginning on face and spreads to trunk and limbs, and often spares palms and soles[2]. It is rare for any individual lesion to persist for longer than a couple of days, and is classically described as a "flea bitten appearance"[2,3]. The infant is otherwise well.

How is ETN diagnosed?
The diagnosis is clinical, with the onset of lesions in first few days of life to up to 2 weeks. The differential includes infectious etiologies such as folliculitis, impetigo, listeriosis, varicella, HSV, CMV, and non-infectious etiologies such as transient neonatal pustular melanosis, miliaria rubra, and eosinophilic pustulosis[2,3].

How is ETN Managed?
The management of this condition starts with education of the primary caregivers. They should be informed on the natural course of ETN, which is benign and will self-resolve in 1-2 weeks without any sequelae[1,2]. Reassurance is important as the appearance of the rashes can cause significant caregiver concern. Gentle products may be used to cleanse the affected areas.

Follow-up of Clinical case:
You continue your clinical rotation, and you see baby girl Mia, who is now 1 month old, in family practice. Her parents are happy to see you but are concerned because of a new rash on baby Mia's face. The rash has not bothered Mia and she has been otherwise well. On physical exam, you see multiple 1mm white papules localized to her nose and forehead.

What is Neonatal Milia?
Milia are benign, transient subepidermal keratin cysts, which commonly occur in infants [4]. The affected area is usually the face, but may involve any area of skin. Neonatal milia can sometimes be found in the mouth, which are called Bohn nodules, and on the palate, called Epstein pearls[5]. They appear as 1 to 2 mm pearly white or yellow papules, which often spontaneously disappear in first month of life, but may persist to second or third month[3–5]. The diagnosis is, again, clinical, but on occasion, skin biopsy may be done, which would show a small epidermoid cyst coming from vellus hair follicle[5].

What are the differential diagnoses of transient neonatal papules and pustules?
The differential includes miliaria, erythema toxicum neonatorum, neonatal pustular cephalosis, and benign cephalic histiocytosis[6].

Continuation of Clinical case:
You inform the parents that Mia most likely has neonatal milia, and that it will self-resolve without any treatment. Reassurance was given that it would not cause any skin complications for Mia. You ask if they have any other questions, and mum recalls that Mia had a short-lived color change that affected half of her body, it lasted for less than a minute when she was put on her side, but the color change quickly went away once baby girl Mia started to move around. Mum was alarmed when she saw it but is not sure if it is concerning or not.

What is Harlequin color change?
Harlequin color change is a phenomenon that occurs during infancy, when a newborn lies on their side; the dependent side becomes erythematous with simultaneous blanching of non-dependent side[3,7]. The well-demarcated color change comes on suddenly and may persist from 30 seconds to 20 minutes before it spontaneously resolves. Harlequin color change pathophysiology is unknown, but there is speculation that it may be due to functional hypothalamic immaturity. The differential includes port-wine stain and nascent hemangioma of infancy[7].

Developed by YuQi Wu and Dr. Allison Gregory for PedsCases.com.
July 05, 2025

Back to the Clinical case:

You tell Mia's parents that Mia likely had Harlequin colour change, which is another harmless skin change that can happen transiently during infancy. Because it self-resolves quickly and there is no association with any disease, the parents were reassured and thank you for your help.

Conclusion

In summary, the key take-home points are

1) Three common benign neonatal dermatoses include erythema toxicum neonatorum, milia, and harlequin color change,
2) These three conditions are self-limited and will resolve without any complications,
3) Despite the benign nature of these skin conditions, it is important to assess vitals and think of a differential,
4) Parental reassurance is key to management.

Thank you for listening to our PedsCases Podcast!

Citations

1 Mendez Errwhasmd. Erythema Toxicum. In: StatPearls. 2025. https://www.ncbi.nlm.nih.gov/books/NBK470222/ (accessed 2 Jun 2025).

2 Purvis DD. Toxic erythema of the newborn. 2011.https://dermnetnz.org/topics/toxic-erythema-of-the-newborn (accessed 2 Jun 2025).

3 O'Connor NR, McLaughlin MR, Ham P. Newborn skin: Part I. Common rashes. Am Fam Physician 2008;77:47–52.

4 Mendez PPGAMD. Milia. 2023.https://www.ncbi.nlm.nih.gov/books/NBK560481/ (accessed 3 Jun 2025).

5 Gupta, Monisha; Oakley A. Milium. 2009.https://dermnetnz.org/topics/milium (accessed 3 Jun 2025).

6 Mathes, Erin; Lalor L. Skin lesions in the newborn and infant. 2024.https://www.uptodate.com/contents/skin-lesions-in-the-newborn-and-infant#H3027051394 (accessed 3 Jun 2025).

7 Tang J, Bergman J, Lam JM. Harlequin colour change: Unilateral erythema in a newborn. C Can Med Assoc J 2010;182:92038. doi:10.1503/cmaj.092038

Developed by YuQi Wu and Dr. Allison Gregory for PedsCases.com.
July 05, 2025