



ERYTHEMA TOXICUM NEONATORUM

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Erythema toxicum neonatorum (ETN) is a common benign skin condition seen in healthy newborns. The lesions are characterized by multiple erythematous macules and papules ranging from 1 to 4 mm that rapidly progress to pustules on an erythematous base. They are usually found over the trunk and proximal extremities, sparing the palms and soles. They may be present at birth, but typically appear within one to two days. Infants with erythema toxicum neonatorum otherwise are healthy and lack systemic symptoms. The eruption is self-limited with most the rash resolving within 5-14 days without any systemic manifestation. Recurrences are uncommon however when they do occur, they are mild and appear in the sixth week of life.

The etiology of ETN is unknown however, has been postulated to involve the immaturity of the pilosebaceous follicles which includes the sebaceous glands and the hair follicles. Neonates tend to have an increased number of hair follicles compared with adults, and it is rare to find the lesions of erythema toxicum neonatorum in areas such as the palms and soles as those regions lack hair follicles. Inflammatory cells tend to aggregate around these hair follicles, and bacteria have been found in the follicular epithelium and inside the inflammatory cells. This finding suggests that erythema toxicum neonatorum may be a response to microbes that have infiltrated the hair follicle. This process has been thought to be an important part in the developing immune system. There is also an eosinophilic infiltrate seen in erythema toxicum neonatorum and because it is rarely seen in premature infants, it is believed that mature newborn skin is required to produce this reaction pattern.

Risk factors for the development of ETN include being born vaginally and in hot, wet climates. In addition a positive correlation has been found between the length of labor and the incidence and duration of this rash.

Erythema toxicum neonatorum is usually diagnosed clinically based on a good history and physical exam. A peripheral smear of the contents in the lesions can be done however it is not essential. Upon microscopic evaluation of a wright-stained smear there are copious amount of eosinophils seen exceeding 90% with a limited amount of neutrophils. A small number of patients may also have peripheral eosinophils. As the rash can have a similar appearance to herpes, a Tzanck smear can be done to rule out this diagnosis. In addition, cultures of the pustule contents for bacteria, fungus, and viruses can be obtained if the presentation is atypical as these testes are all negative in ETN. A skin **biopsy** is confirmatory but rarely if at all indicated.

No treatment is necessary for erythema toxicum neonatorum as the lesions will regress in 5-14 days. Simple reassurance is given to the parents regarding the benign temporary nature of this skin condition.

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