BRIEF COMMUNICATION

Neonatal acne in a 3-week old infant treated with zinc coceth sulfate foam wash

Neonatal acne or acne neonatorum occurs in infants younger than four weeks old. It is a common condition affecting 20% of neonates, and is more common in boys. [1,2,3] Neonatal acne typically presents with closed comedones, inflammatory papules and pustules, and, less frequently, open comedones. There may be accompanying sebaceous hyperplasia and a prominent "facial shine."[1,3] Facial shine refers to the shiny appearance of facial skin— often more pronounced on the forehead, cheeks, and chin— that is created by the accumulation of sebum on the skin surface. [4] Sometimes, the scalp, neck and upper chest may also be affected. [1,3]

Etiologies of neonatal acne include increased sebum secretion, stimulation of sebaceous glands by maternal and neonatal androgens, and from colonization of sebaceous glands by *Malassezia* yeast. [1,2,3]

Neonatal acne is a mild and self-limited disease. It usually resolves in one to four months without scarring. [1,2,3] If needed, lesions may be treated with topical benzoyl peroxide, topical retinoid, oral erythromycin or low-dose isotretinoin. [1,3,5,6,7] However, one of the concerns in treating neonatal acne is that the majority of clinical trials for acne medications are conducted in patients 12 years of age or older. As such, little published evidence regarding the safety and efficacy of many acne medications in younger pediatric patients is available. [8]

A case of neonatal acne is hereby presented in which a cleansing regimen was employed to control the oiliness and formation of comedones, papules and pustules. [9]

The baby girl was born full-term via caesarian section. APGAR score was 9-9. Weight and length were within normal limits. She was given BCG and hepatitis B vaccinations at birth. The course at the hospital was unremarkable. She was purely breastfed and was bathed daily using a mild cleanser.

At three weeks old, the infant developed increased facial shine on the scalp and forehead. During the next 7 days, comedones, papules, and pustules appeared on the scalp and face, prominently on the forehead and cheeks. There were no lesions on the rest of the body. At 4 weeks old, the baby's scalp and face looked very oily. The papules were erythematous and the pustules increased in size and number.

At this time, a commercially available zinc coceth sulfate foam wash (Cetaphil Dermacontrol Oil Control Foam Wash) was used to cleanse the scalp and face once a day. No other topical or oral medicines were applied or taken.

Figure 1. Four-week old infant with a 7-day history of increasing number of comedones, papules, and pustules

During the next few days, there was less facial shine and the pustules became less inflamed. No itchiness or rashes were noted. The zinc coceth sulfate foam wash was continually used on the affected areas. No new lesions developed and the condition improved. Less oiliness and a decrease in closed comedones, inflammatory papules, and pustules were observed. There was resolution of lesions after 9 days of use of zinc coceth sulfate foam wash.

Figure 2. Almost complete resolution of inflammatory papules and pustules after using zinc coceth sulfate foam wash for 9 days.

There is no data available regarding the use of zinc coceth sulfate foam wash for neonatal acne. Only a few studies have been conducted, but they involved adolescent to adult populations with mild to moderate acne. One single-center open label trial done in 2011 determined that zinc coceth sulfate was well tolerated in the test population, ages 18 to 35 years old. [10] In 2015, a multi-center open label trial of subjects 12 to 52 years old with mild to moderate acne concluded that zinc coceth sulfate foam wash demonstrated little-to-no irritation potential, absence of comedogenicity, no worsening of acne vulgaris, diminished facial shine and skin oiliness due to sebum absorption, decrease in transepidermal water loss, increase in skin hydration, and little-to-no elicitation of sensitization or irritancy potential based on preclinical and clinical testing. [4] Zinc coceth sulfate is a mild surfactant with high foaming ability and low irritation potential. It is able to maintain its function at a low pH and needs minimal preservative for the product. [4] According to the United States Patent Application, zinc coceth is a hygiene composition with an antibacterial property against *Propionibacterium acnes*. [11] The foam wash also contains zinc gluconate and dipotassium glycyrrhizate which have anti-inflammatory properties. It also contains glycerin which is a humectant that promotes water retention in the stratum corneum to help maintain optimal enzyme function. [4]

Despite the lack of evidence-based studies on the use of zinc coceth sulfate in neonates, this case may be helpful in recommending treatment products to parents whose babies present with similar condition. An appropriate cleanser may be a good alternative to standard acne treatments, such as benzoyl peroxide and tretinoin, in mild to moderate neonatal acne. A clinical trial on the use of zinc coceth sulfate on neonatal acne is further recommended to validate this present observation.

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