NAPKIN DERMATITIS IN BABIES, CHARACTERISTICS AND EFFICACY OF PANTHENOL TREATMENT

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ABSTRACT
Objective: To evaluate how effective is panthenol ointment in the treatment of diaper dermatitis in babies. Patients and methods: The study was conducted in pediatric outpatient clinic in Gaza strip over a two months period. A total number of 237 of newborns and infants with primary diagnosis of napkin dermatitis were included. patients have been divided into two groups according to severity of dermatitis; mild diaper dermatitis in the form of erythema and moderate severity, which was manifested on the background of the development of erythema, papules, erosions and infiltrates in the skin folds. Clinical follow up was done over one week period. Data also included ages, mode of feeding. Results: from the total 237 babies, males were 163 with males to females ratio of 2.2:1, 100% of the diaper dermatitis developed in the buttocks; while 5% of children inginital area and 13% in the thighs. In most patients, improvement was noted on the second day. Treatment of panthenol continued until the complete disappearance of skin changes and averaged 4, 4 ± 0, 1 days. In the group of children with mild disease severity average duration of treatment was 4, 2 ± 0, 7 days, while the group of children with moderate severity of diaper dermatitis the average duration was 4, 7 ± 0, 6 days. Significant difference in the average duration of treatment and mild forms of diaper dermatitis is not obtained (p > 0, 05). Diaper dermatitis was more common in children who were bottle-fed, compared with children who received breast milk but with significant difference. No adverse reactions were observed during the study period. Conclusion: We recommend the use of panthenol ointment for the treatment of diaper dermatitis in infants.

KEYWORDS: panthenol, napkin dermatitis, infants.

INTRODUCTION
Diaper dermatitis is a common disease in children less than two years of age. Its manifestations observed in virtually every infant.[1] The high prevalence of diaper dermatitis determines the need for improved methods of treatment.

According to recent data, diaper dermatitis is a recurrent pathologic state, provoked by the impact on the baby's skin mechanical (cloth diapers), physical (humidity and temperature), chemicals (ammonia, digestive enzymes, and bile salts) and microbial factors acting within the cradle or nappy.[2] The protective function of skin young child is not sufficient because of its anatomical and physiological characteristics: a thin surface layer, the epidermis and a rich blood supply. The influences of these adverse factors make the skin of children vulnerable easily and prone to inflammation.[2]

Local treatment of diaper dermatitis using various creams and ointments on the basis of zinc and talc, which acts through its adhesive properties that protect the skin from constant exposure to urine and feces.[3] Pantothenic acid is a vitamin, also known as vitamin B5. It is widely found in both plants and animals including meat, vegetables, cereal grains, legumes, eggs, and milk. Vitamin B5 is commercially available as D-pantothenic acid, as well as d-panthenol and calcium pantothenate, which are chemicals made in the lab from B5-pantothenic acid. People apply d-panthenol, which is made from pantothenic acid, to the skin for itching, promoting healing of mild eczemas and other skin conditions, insect stings, bites, poison ivy, diaper rash, and acne. It is also applied topically for preventing and treating skin reactions to radiation therapy.[4]

PATIENTS AND METHODS
The study was carried out in pediatric outpatient clinic at Jordanian field hospital in Gaza over a two months period. A total number of 237 of newborns and infants with the diagnosis of napkin dermatitis were included in the study. Patients have been categorized into two
different groups, according to the grading scale of diaper dermatitis, mild severity diaper dermatitis in the form of erythema, the other group with moderate severity, which was manifested on the background of the development of erythema papules, erosions, infiltrates in the skin folds. Distribution of patients according to severity scale is shown in table (1), which shows that, n=156 patients presented with mild severity, while n=81 patients with moderate severity. At the first manifestations of diaper dermatitis panthenol ointment was applied daily with a thin layer to the affected child's skin during diaper changing 3-4 times a day.

RESULTS

From the total 237 babies, males were 163 with males to females ratio of 2.2:1. 100% of the diaper dermatitis developed in the buttocks; in addition, 5% of children were also observed genital skin lesions and 13% in the thighs. In most patients, improvement was noted on the second day. Treatment of panthenol continued until the complete disappearance of skin changes and averaged 4, 4 ± 0, 1 days. In the group of children with mild disease severity average duration of treatment was 4, 2 ± 0, 7 days. In the group of children with moderate severity of diaper dermatitis it was 4, 7 ± 0, 6 days. The response of the treatment is shown in table (2). Significant difference in the average duration of treatment and mild forms of diaper dermatitis is not obtained (p> 0, 05).Diaper dermatitis was more common in children who were bottle-fed, compared with children who received breast milk.

In 93% of newborn diaper dermatitis occurs against a background of pathological stool (dilution, mucus), which were regarded as a manifestation of intestinal dysfunction. Bacteriological examinations of faecal pathogens have been identified.[6,9] A lot of modalities have been used in treatment of diaper dermatitis i.e. zinc creams, tache, petrolatum and mild steroids preparations with variable effects.[1,7,8]

In this study we used panthenol ointment with first manifestations of diaper dermatitis. Panthenol is a tool for outdoor use, stimulating epithelization of the skin, has anti-inflammatory effect, and also serves as a source of neutral fats. Active principle is a precursor of vitaminB5-pantothenic acid. Pantothenic acid is essential for the formation of antibodies; it promotes the growth of the epidermis. Increased demand in this acid observed in lesions of skin and tissue. Its lack can be filled by topical application of B5-panthenol. Due to its physico-chemical properties of ointment which slowly and deeply penetrate into the affected skin areas.[5,8,9] The ointment was applied daily with a thin layer to the affected child's skin during diaper changing 3-4 times a day.

The positive effect of recovery was observed in 100% of cases (other drugs with local action is not applied). Side effects when using the panthenol ointment has not been reported.[6,10]

CONCLUSION

Thus, these results allow us to recommend the use of panthenol ointment for the treatment of diaper dermatitis in infants. Ointment should be applied on the damaged skin 3-4 times a day before the disappearance of the disease.

REFERENCES

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