

Acne neonatorum in the eastern Saudi Arabia

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ABSTRACT

Background: Acne neonatorum (AN) is characterized by a facial eruption of inflammatory and noninflammatory acne lesions in a neonate. Hyperactivity of sebaceous glands, stimulated by neonatal androgens, is implicated in its pathogenesis. **Aim:** To elucidate the clinical profile of AN in eastern Saudi Arabia. **Methods:** All patients diagnosed with AN in King Fahd Hospital of the University in Khobar, Saudi Arabia, during the year 2005 were evaluated clinically. **Results:** AN was diagnosed in 26 patients (male/female ratio 1:1). The lesions included mainly facial comedones (30.8%); papules and pustules (15.3% each); and combination of papules, pustules, and cysts (53.4%). **Conclusion:** All patients recovered spontaneously. In 50% of the cases, one of the parents reported having had acne vulgaris during adolescence. Hereditary factors seem to play a significant role in our series.

Key Words: Acne neonatorum, Infantile acne

INTRODUCTION

Acne neonatorum (AN) is not an uncommon pediatric dermatological condition and usually appears during the neonatal period. It has been estimated that up to 20% of newborns may be affected with this condition.^[1] Clinically, the patients present with facial eruption of inflammatory and noninflammatory acne lesions. AN runs a short and self-limited course.^[2] The aim of this study was to elucidate the clinical profile of AN in eastern Saudi Arabia.

METHODS

This was a prospective study conducted at the outpatient department (OPD) of King Fahd Hospital of the University (KFHU) in Al-Khobar, Saudi Arabia, during the year 2005. The diagnosis of AN was made on clinical grounds alone. All patients were evaluated in detail including a physical examination, with the emphasis being on evaluating the number and type of lesions and the sites of involvement. A standardized questionnaire was given to the parents, that sought information on parents' acne history, such as age

at onset, sex of the parent, and duration of the disease; history of the present pregnancy and delivery, with special emphasis on history of any drug intake during pregnancy or delivery was also taken.

RESULTS

Twenty six neonates with AN were identified during the study period. There were 13 (50%) males and 13 (50%) females. The mean age at onset was 1.19 weeks. In 13 (50%) cases, one of the parents had a positive history of acne vulgaris in adolescence or early adulthood. All pregnancies and deliveries were with no reported complications, except for one case where the mother had had hypertension during pregnancy. Clinical examination of the neonates revealed the presence of different types of lesions: 8 (30.8%) patients had comedones only; 4 (15.3%) had papules and pustules [Figure 1]; and 14 (53.4%) had a combination of papules, pustules, and cysts. The sites of involvement were the forehead, cheeks, and chin; two of these were affected in 9 (34.6%) neonates while 13 (50%) patients had more than two areas affected and 4 (15.3%) had only a single area

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Figure 1: Papules and pustules of acne neonatorum in a neonate

affected. The duration of the disease was less than 1 month in all the patients; the lesions did not tend to persist beyond this period. None of the patients received any anti-acne medical treatment, but daily cleansing with water and soap was advised for all of them.

DISCUSSION

AN is a condition that is usually mild and transient, thus making it liable to be underreported.^[1] It is mentioned that male neonates with this condition outnumber females^[1,3] but this trend was not seen in our series. Lesions of AN are primarily closed comedones, but open comedones as well as inflammatory lesions, such as papules and pustules, may also be observed.^[4] Cysts and nodules are rare and may even lead to scarring in an occasional neonate.^[5] The face is usually affected, specifically the cheeks or the forehead.^[1,3] Lesions most commonly appear during the first 2-4 weeks of life and spontaneously resolve within a couple of months.^[4,6] Classically, infantile acne starts after the third month of life. It seems difficult to draw a demarcation line between neonatal and infantile acne, since some cases of neonatal acne may persist beyond the neonatal period and these then share features with infantile acne and may even be considered infantile acne.^[4,6-14]

The etiopathogenesis is unknown, but several factors may contribute to AN. These include genetic factors - which is supported by the positive family history in our study - and an intrinsic hormonal effect due to the production of 3-hydroxysteroids by hyperactive adrenal glands.^[1,3] Some male infants, from birth until 6-12 months of life, produce pubertal levels of luteinizing hormone and even testosterone,^[3,15] which may be responsible for the male predominance seen in some studies.^[1,3,16] The hormonal

role is evident from other forms of acne as well, eg, steroid acne, premenstrual acne, and menopausal acne.^[17] The correlation between familial hyperandrogenism and AN has been shown.^[18] The role of *Malassezia furfur* in neonatal pustulosis has been suggested as a contributing factor for the development of AN.^[19,20]

Our results showed a male: female ratio of 1:1 in contrast to previous studies, which found a male predominance.^[1,3,7,8] Most lesions were mainly on the face, with only a few extrafacial lesions. Morphologically, they were primarily papules, pustules, and cysts, similar to the study of Katsambas *et al.*^[8]

The differential diagnosis of AN includes: infectious diseases of bacterial, viral, or fungal etiology; erythema toxicum neonatorum; neonatal sebaceous gland hyperplasia; acne infantum; acne venenata infantum; and acneiform reactions to drugs such as lithium or phenytoin.^[1,12,19-21] Recalcitrant or severe disease requires investigation for adrenal cortical hyperplasia, presence of a virilizing tumor, or underlying endocrinopathy.^[3,4,7,22]

Usually, no treatment is needed as spontaneous recovery is the rule, as was seen in most of our cases.^[4,6] However, cases that persist beyond the neonatal period are categorized and treated as infantile acne.^[23] The principle of the treatment of these cases is the same as for acne vulgaris. For mild cases, topical treatment like benzoyl peroxide, erythromycin, and retinoids are recommended. Oral erythromycin, 125 mg twice daily, is recommended for moderate cases.^[1,3,7] Severe cases or erythromycin-resistant patients can be given isotretinoin in a dose of 0.2-1.5 mg/kg/day for 5-14 months.^[7,24,25] Close monitoring is mandatory to avoid the serious side effects of isotretinoin.

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