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INFANTILE ACNE: A Clinical and Therapeutic Study of 12 Patients

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Abstract: To evaluate the clinical pattern and therapeutic outcome of acne in infants. Case series. The study was conducted at two tertiary care hospitals from year 2000 to 2007. The babies below 24 months of age with history of inflammatory and non inflammatory lesions at face for at least two consecutive months were evaluated and enrolled in the study. The diagnosis of acne was essentially clinical. After taking detailed history from parents the number, type, severity and location of lesions were noted. The grading was done by using standard method. The patients were advised treatment and asked for follow up visit every month. The data obtained were collected, saved and analyzed in SPSS version 10.00. Only 12 subjects were registered during the seven year period. Their ages ranged between 2 and 22 months (mean 6.9 ± 5.77 months). Nine (75%) were boys and 3 (25%) girls. The skin lesions detected were: comedones in 4 (33%), papules & pustules 5 (42%) and combination of these in 3 (25%) subjects. One patient (8.33%) had additional cystic lesion. The number of lesions ranged from 3 to 16 with a mean of 8 lesions. The commonest site was cheeks followed by forehead and chin. The average duration at the time of presentation ranged from 08 to 20 months. The infantile acne is a rare but important disorder to be aware of. Our study confirms male predominance. It most commonly presents with inflammatory lesions. Treatment principles are same as in adult acne.

Key words: Infantile acne · Acne infantum · Clinical pattern · Treatment

INTRODUCTION

Acne is an inflammatory disease of pilosebaceous unit characterized by comedones, papules, pustules, cysts and scars. It most commonly appears around puberty, but can occur in people of all ages [1]. The infants and newborn are not exception. The Infantile acne is a rare disorder and refers to acne with an onset occurring from 1 to 16 months of age. It is distinguished from newborn or baby acne by its persistence beyond the age of 2 months. The lesions are similar to adolescent acne [2]. The boys are more than the girls. The prevalence of infantile acne reported is 1.57% [3].

The cause for infantile acne has not yet been identified. Although positive family history (genetic association) and hormonal disturbances such as elevated levels of luteinizing hormone (LH), follicle-stimulating hormone (FSH) and testosterone have been described as contributing factors [4] but most patients do not show any demonstrable abnormality. Therefore measurement of these hormones is only justified in more severe forms of acne. The disease needs to be differentiated from other neonatal disorders i.e. neonatal cephalic pustulosis [5] and neonatal sebaceous gland hyperplasia [6], infectious pyoderma, pilomatrixoma, dermoid cyst and infant rosacea [7].

The course of the disease is variable. The lesions disappear in most cases after 1 to 2 years; although in some cases these resolve by age 4 or 5 years. Severe infantile acne may result in permanent scarring [2].

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Usually no treatment or topical agents such as benzoyl peroxide or erythromycin gel are needed to alleviate the lesions. Severe cases require oral antibiotics such as erythromycin and trimethoprim, or even systemic isotretinoin [8-11].

The objective of our study was to evaluate the pattern of clinical presentation, severity and response to treatment in infants presenting with acne.

MATERIALS AND METHODS

The study was carried out at the departments of dermatology of two teaching hospitals of Hyderabad and Nawabshah from year 2000 to 2007. All babies below 24 months of age with inflammatory and non inflammatory lesions on face for at least 02 months were evaluated and enrolled in the study. An informed consent was taken from parents of patients after full explanation of goals of study. The mailing address and contact numbers were noted for follow-up visits. The selection of patient was in random manner. The data were collected through a pre-formed proforma. After taking detailed history from parents a complete relevant examination was done to note the number, type, severity and location of lesions. The disease was classified into mild (comedones, few papules, occasional pustule), moderate (papules, pustules with occasional cysts or scars) and severe (dominantly nodules, cysts and scars) types. The grading was using standard grading scale [12]. The data thus obtained were analyzed by SPSS version 10.00.

RESULTS

During the 07 years period a total of 12 subjects could be identified with infantile acne. Among them 9 (75%) were boys and remaining 3 (25%) girls. Their age of onset with mean ± standard division (SD) is shown in Table 1. Eight (67%) patients were from urban and 4 (33%) from rural areas.

Five (41.6%) patients had papules and pustules as the dominant lesions, 3 (25%) comedones only, 3 (25%) a combination of comedones, papules and pustules while one (8.4%) had cystic lesions in addition to papules. Acne severity was mild in 7 and moderate in 5 patients. The family history of disease was positive in 06/12 (50%) subjects. All patients had acne on face. The localization of lesions on different areas of face is shown in Table 2. None of the patient exhibited signs of hyperandrogenism, therefore no hormonal studies were performed.

Table 1: Mean Age and Standard Deviation (SD) of infants with acne

Age onset (months)	*n* = 12	%	Mean age ± SD
2	02	16.7	6.91±5.75 months
03	01	8.3	
05	03	25	
06	03	25	
08	01	8.3	
14	01	8.3	
22	01	8.3	

Table 2: Location of Lesions on face

SITE	*n* =12	%
Cheeks	06	50
Cheeks and forehead	03	25
Cheeks and chin	02	16.66
Cheeks, chin and forehead	01	8.33

Table 3: Duration of acne

Number of patients (n= 09*)	Duration	Mean ± SD
Patient 1	8 months	14.87±4.06 months
Patient 2	10 months	
Patient 3	12 months	
Patient 4	13 months	
Patient 5	14 months	
Patient 6	15 months	
Patient 7	17 months	
Patient 8	16.5 months	
Patient 9	18 months	
Patient 10	18.5 months	
Patient 11	13.5 months	
Patient 12	23 months	

*03/12 (25%) patients didn't appear for follow-up

Seven patients were advised topical topical treatment alone: topical clindamycin gel (n= 2), topical benzoyl peroxide (BPO) combined with clindamycin (n= 3) and topical tretinoin (n= 2). The patients with moderate acne were treated with oral erythromycin 125 mg twice a day combined with topical clindamycin or BPO or a fixed combination of clindamycin + BPO. All of the patients improved on these regimens. Only in one patient the oral erythromycin had to be replaced with co-trimoxazole suspension. During the treatment period no significant side effects were reported.

Regarding follow up visits, three (25%) patients didn't appear for follow up. The reason cited was living in remote rural areas with no facilities of communication. Therefore 09/12 (75%) subjects were available for subsequent follow up visits. Table 3 shows the duaration of acne in our patients.

DISCUSSION

The number of patients and duration of our study confirm the rarity of acne in infancy; a fact also appreciated by others [13]. This is also the reason for paucity of epidemiological data for this disease.

The mean age of onset of acne of 07 months in our study matches well with that of a study by Cunliffe *et al*. [14] in which the majority of patients were between 6 and 9 months. However it is different from other studies [15]. The male predominance in our study is also in conformity with other studies [16, 17]. The reason for increased vulnerability of male boys to acne is additional source of androgens from testes other than the adrenal glands.

Acne was limited to face in our study. There was no lesion on trunk; a finding dissimilar from one reported by Cunlifee *et al*. This may be due to less severity of disease in our patients. Cheeks were the dominant site involved followed by chin and forehead in our patients as was also the observation of other investigators [18].

The patients presented with different type of lesions from comedones to pustules. However; inflammatory papules with few pustules being the dominant clinical pattern in our study is similar to a study conducted at Saudi Arabia [19] None of the patients in our study has severe acne. These results differ from the study by Cunlifee, in which 14% of the patients had severe acne. Racial, geographical and climatic factors may be the reason for less severity of acne in our study.

All the patients in our study were healthy having no clinical features of any endocrine disorder. This kept us away from performing hormone studies in our patients. Other studies have reported similar observations. In some of these hormonal studies were done and found consistently normal [20].

The duration of disease in our study varied from 08 months to 23 months (mean 14.87±4.06) which is much lower than that (few months to 5 years) reported by Diglottic [21].

The different factors have been suggested to contribute to development of acne in neonatal period. These include genetic, hormonal and drugs. The positive family history in some cases favours the genetic theory while maternal androgens coupled with hyperactive adrenal glands in infants producing leutinizing hormone and testosterone at early pubertal levels have been suggested to promote acne [22]. Regarding drugs a case has been reported in which acne along with central nervous system disease developed in an infant whose mother was taking phenytoin during pregnancy [23]. Half the number of patients in our study had positive family history suggesting genetic factor in etiology. However they neither had endocrine abnormalities nor any evidence of drug exposure.

We preferred topical treatment in our patients because of the mild to moderate nature of disease. Oral erythromycin and cotrimoxazole was prescribed to only patients with moderate acne. Though systemic isotretinoin has been frequently used world wide [24] we did not use it in any subject because of its side effects and difficulty in monitoring these and administering the drug at this age.

Only minimal side effects were observed in patients in our series. These included erythema, irritation and transient flare of inflammation in acne. None of these were sufficiently severe to discontinue treatment.

The period of our study was insufficient to evaluate the development of adolescent acne in all such subjects. Frequent visits and longer duration of study compel them to skip from the study in gradual manner. Some change their residential area, city, consultant physicians and contacts numbers. Poverty and rural inhabitance are also factors preventing their frequent visits to hospitals for follow up.

We hope the present study would help in understanding the clinical presentation of infantile acne and its appropriate treatment.

CONCLUSION

The early recognition of acne in infancy with prompt treatment is essential to reduce the risk of scarring. The parents need proper counseling and education regarding this disease.

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