Original Research Article

Clinico-epidemiological study of Acne Vulgaris in Southern India

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Abstract

Acne vulgaris is a multifactorial disease affecting the pilosebaceous follicle characterized by comedones, papules, pustules, nodules, cysts and scars. This study constituted 120 patients and was conducted at Department of Dermatology, Venereology & Leprology at Basaveshwar Teaching & General Hospital, attached to Mahadevappa Rampure Medical College, Gulbarga during the period from September 2010 to August 2012. This study was aimed to find out and ascertain different clinical presentations of Acne vulgaris in both the sexes of various age groups. Higher incidence of Acne Vulgaris was seen in 16-20 years age group and females are more commonly affected. Duration of lesion was 1-2 years in majority of patients (35.9%). Face is the commonest area involved. Acne aggravates on using cosmetics, due to stress and also has seasonal variation too.

Keywords: Acne Vulgaris, Epidemiology, Clinical presentation.

1. Introduction

Acne vulgaris is a multifactorial disease affecting the pilosebaceous follicle characterized by comedones, papules, pustules, nodules, cysts and scars. Acne vulgaris is most common skin problem in adolescents, although lesions can appear as early as age 8. Although acne is more common and more severe in boys than girls, it usually occurs in girls at an earlier age and tends to last longer, sometimes into adulthood. The etiology of acne vulgaris is multifactorial. Precipitating factors include genetics, exposure to industrial compounds, trauma, rubbing from tight clothing, cosmetics, emotional stress and unfavourable climate. The major factors involved in pathogenesis are an increased sebum production, an abnormality of microbial flora, cornification of the pilosebaceous duct, production of inflammation and increased androgen levels. Commonly, acne is treated with numerous topical and systemic drugs. Although oral antibiotics continue to be the mainstay of acne therapy, but topical therapy has been an essential part of dermatologists regimen for treating acne. Topical therapy is one of the effective mode of treating acne and therapeutic efficacy is also good.

Acne is the common problem and it is also putting psychological impact on patients. It is necessary to explore the burden of the disease in hospitals with clinical profile and treatment pattern from time to time. So, as to evaluate the clinico-epidemiological study and their outcome with various topical modalities of treatment in Acne Vulgaris and to reduce adverse consequences like scars, the study is required. Hence, this study was aimed to find out and ascertain different clinical presentations of Acne vulgaris in both the sexes of various age groups and to confirm them with laboratory investigations if necessary.

2. Materials and methods

This study was conducted at Department of Dermatology, Venereology & Leprology at Basaveshwar Teaching & General Hospital, attached to Mahadevappa Rampure Medical College, Gulbarga during the period from September 2010 to August 2012. Study was started after approval from Institutional Ethical Committee, Gulbarga. 120 patients of acne vulgaris attending to the outpatient department were taken for study. Individuals aged above 10 years and of both the sexes were included in the study. Patients having grade IV acne or patients having other infectious diseases were

excluded from the study. Similarly, pregnant and lactating patients were excluded.

The grading system used was:

Grade-I (mild): Comedones, occasional papules,

Grade-II (moderate): Papules, comedones, few pustules,

Grade-III (severe): Predominant pustules, nodules, sinuses, and,

Grade-IV (cystic): Mainly cysts, abscesses, wide spread scarring.

3. Results

120 cases were analysed in this study. Among 120 patients, 51 (42.5%) were males and 69 (57.5%) were females. In the present study maximum number of patients belonged to the age group 16-20 years with 61 (51%), followed by 11-15 years with 25 (21%) patients. (**Table 1**) 34 (28.3%) patients had duration of lesions <1 year, 43 (35.9%) patients had duration between 1-2 years. (**Table 2**) 54 (45%) patients were using cosmetics, while 60 (50%) patients had flares of acne with periods of stress.(**Table 3**) 80 (66.7%) patients had lesions only on the face, 18 (15%) patients had lesions on face, back and chest. (**Table 4**) Among 120 patients studied 32 (26.7%) had scars, of which 12 (10%) patients had ice pick scars. (**Table 5**)

Table 1: Age and sex wise distribution of cases

Age in years	Males	Females	Total
11-15	10	15	25 (21 %)
16-20	24	37	61 (51 %)
21-25	12	8	20 (16 %)
26	5	9	14 (12 %)
Total	**51 (42.5%)**	**69 (57.5%)**	**120 (100 %)**

Table 2: Distribution of cases according to duration of acne

Duration	No. of cases	Percentage
<1 year	34	28.30
1-2 years	43	35.90
3-4 years	27	22.50
4 years	16	13.30
Total	120	100.00

Table 3: Distribution of cases according to aggravating factors

Factors	No. of cases	Percentage
Cosmetics	54	45.00
Stress	60	50.00
Season		
Summer	22	18.30
Winter	3	2.50
Premenstrual flare	32	46.40

Table 4: Distribution of cases according to location of lesions

Sites	No. of cases	Percentage
Faces	80	66.70
Face, back, chest	18	15.00
Face, back	15	12.50
Face, chest	5	4.2
Back, chest, arm	2	1.6
Total	120	100.00

Table 5: Cases according to type of scars

Types	No. of cases	Percentage
Ice pick scars	12	10.00
Atrophic	8	6.7
Keloid	2	1.6
Boxcar scar	10	8.3
Hypertrophic scar	00	00
Total	32	26.7

4. Discussion

Acne vulgaris accounted for 7.1% of the total dermatology out patients during the period from September 2010 to August 2012 in Basaveshwar Teaching & General Hospital attached to M.R.Medical College, Gulbarga. A survey of Australian Private Dermatology Practices reported that of 3197 new diagnosis, 320 (10%) patients were of acne.[1] Chau *et al*[2] observed in their study in 2002 that there 6805 new cases of acne vulgaris seen at National Skin Centre of Singapore accounting for 11.2% of the total number of new cases seen at the centre in that year. In this study, maximum number of patients belonged to the age group 16-20 years with 61 (51%), followed by 11-15 years with 25 (21%) patients. Burton *et al*[3] reported the peak age of acne as between 14-17 years in females and 16-19 years in males. Adityan *et al*[4] reported most common age group involved was 16 to 20 years (59.8%).

In the present study, 34(28.3%) patients had duration of lesions <1 year, 43 (35.9%) patients had duration between 1-2 years, 27 (22.5%) patients had duration of 3-4 years and 16 (13.3%) patients had duration more than 4 years. Tan *et al*[5], in their study of 78 patients observed that 74% of patients had a duration of more than 1 years before seeking medical attention, 12% had between 6-12 months, 6% had between 3-6 months and 7% had a duration less than 3 months.

4.1 Aggravating Factors
Cosmetics

In the 120 patients studied, 54 (45%) patients were using topical creams and cosmetics. Tan *et al*[5], in the study of 78 patients reported that cosmetics were believed to aggravate acne in 46% of patients.

Stress

Among 120 patients in the study, 60 (50%) patients had flares in acne with periods of stress. In the study by Green and Sinclair,[6] out of 215 graduate medical students, it was observed that 67% of students believed that stress plays a role in acne exacerbation.

Season

In the present study, out of 120 patients, 25 (20.8%) patients had seasonal exacerbation. In these 22 (18.3%) patients had exacerbation in summer and 3 (2.5%) had winter exacerbation. Saradana *et al*[7] in their study 28.5% patients noted an aggravation in summer. The present study compares well with the above study.

Premenstrual Flare

In the present study, out of 120 patients, 69 were females, of which 32(46.4%) had premenstrual flare. Cunliffe and Cotterill[8] observed that 60-70% of women noticed a deterioration in acne in the premenstrual week.

In the present study of 120 patients 80 (66.7%) patients had lesions only on the face, 18 (15%) patients had lesions on face, back and chest, 15 (12.5%) patients had lesions on face and back, 5(4.2%) had lesions on face and chest, 2 (1.6%) patients had lesions on back, chest and arm. In a study by Biswas *et al*[9] out of 400 patients, the majority had acne only on face, while face along with other areas such as chest and shoulder comprised the second largest group (18%). In the present study among 120 patients studied, 32 (26.7%) had scars, of which 12 (10%) patients had ice pick scars, 8 (6.7%) patients had atrophic scars, 2 (1.6%) had keloid, 10 (8.3%) patients had boxcar scars. According to Adityan study there was higher incidence of scarring in 39.5% of patients, which was done on 309 patients with acne vulgaris.[4] Rothman and Lucky[10] observed that ice pick scars are most common and keloidal scar being least common.

5. Conclusion

In present study of 120 patients higher incidence was seen in 16-20 years age group and females are more commonly affected. Duration of lesion was 1-2 years in majority of patients (35.9%). Face is the commonest area involved. Acne aggravates on using cosmetics, due to stress and also has seasonal variation too. However, more clinic-epidemiological studies are required in Indian community for furtherance of the conclusions.

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