

Profile of acne vulgaris-A hospital-based study from North India

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Abstract

Background: Acne vulgaris is the commonest disorder of pilosebaceous unit. There is no North Indian study on the profile of acne vulgaris, markers of severe forms of acne vulgaris and a possible correlation between acne vulgaris.

Aim: To study the profile of acne vulgaris, its seasonal variation, relationship with smoking.

Methods: The study was conducted between October 2019 to may 2020. All patients of acne who gave consent for the study were included. Late onset acne or adult acne was not included. The parameters evaluated include age, gender, age of onset, duration, site, severity of acne, seasonal variation and relation with smoking.

Result: 7429 total patients of which 307 patients were included who had acne. There was a frequency of 1.07% in my study. Mean age group was 18.56 years. Male to female ratio in our study was 1;26:1. The most common age group involved was 16 to 21 years of age. Premenstrual flare was noted in 56.81% of females. Mean age of onset in our study was 14.94 years. Most common involved site was face followed by back (27%), chest (21.21%), neck (8.64%) arms(11%). Seasonal variation was noted only in 79 patients. Only 68 patients (86.07%) had summer exacerbation and 11 patients(13.9) had winter exacerbations. Smokers has more severe acne as compared to non smokers (p=.0001). For severity of acne 185 patients had grade 1 acne(60.06%). 85 patients had grade 2 acne (27.59%) 8 patients had grade 3 acne(2.5), 30 patients had grade 4 acne(9.7%).

Conclusion: This study brings out the profile of acne vulgaris in a tertiary care centre of north india.

Keywords: acne vulgaris, comedones

Introduction

Acne vulgaris is one of the commonest skin disorder which dermatologists have to treat. Change of environmental and dietary factors have added to the increase in number of acne cases. Acne vulgaris is a chronic inflammatory disease of the pilosebaceous units [1]. The condition usually starts in adolescence, peaks at the ages of 14 to 19 years and frequently resolves by mid-twenties. Acne vulgaris develops earlier in females than in males, which may reflect the earlier onset of puberty in females. The most severe forms of acne vulgaris occur more frequently in males, but the disease tends to be more persistent in females [1]. Grading system based on clinical assessment helps in knowing the severity of acne and chances of scarring. Severe acne are more prone for scars.

Though this is a common topic the study was done to know the profile, seasonal variation, grading of acne.

Methods

The study was done between October 2019 to may 2020. Ethical committee permission was taken. All patients of acne vulgaris visiting our OPD who consented to be included in the study were included. Patients with acne vulgaris not willing to participate in the study and patients with drug-induced and other acneiform eruptions were excluded. The parameters evaluated include age, gender, age of onset, duration of lesions, site of lesions, grade, relation to menstrual cycle, m, number of acne lesions such as comedones, papules pustules and nodules, number and site of post-acne scarring, seasonal variation and history of smoking. Acne vulgaris was graded using a simple grading

system taking into account the predominant lesion to grade acne, which classifies acne vulgaris into four grades [2].

Grade1; Comedones, occasional papules

Grade2; Papules, Comedones few pustules

Grade3 ;Predominant pustules, nodules, abscess.

Grade 4; Mainly cysts, abscess and scarring

Data collected from the patients were tabulated in a Microsoft Excel worksheet and a computer-based analysis of the data was performed using SPSS 15 software (SPSS, Chicago, IL, USA).

Results

Total 7429 new patients coming to dermatology out patient department during the time period were included in d study. 307 patients had acne and frequency was noted to be 1.06%. Out of total 307 acne patients we had 137 females(44.62%) and males were 170(55.37%). The age of the patients varied from 13 to 45 years with the mean of 19.78 years (SD ± 4.94). The most common age groups to be involved in acne vulgaris were 16-20 years (185 cases, 59.8%) and 21-25 years (60 cases, 19.4 %).

Table 1: Age and gender characteristics of acne patients

Age	Number of Patients		
	Male	Females	Total
1.10-15YRS	24	11	35
2.16-20	105	78	183
3.21-25years	32	28	60
4.26-30	8	7	15
Total	170	137	307

Figure 1 shows age and gender characteristics of acne patients.

It was found that patients aged 20 years or older (89 vs. 220) are more likely to have severe grade of acne vulgaris ($P = 0.011$). It was also found that male patients had more severe acne vulgaris ($P < 0.0001$) (30 males vs. 6 females had grade 4 acne vulgaris). Mean duration of acne vulgaris was 45.55 months and the range was 1 month to 25 years. Patients with longer duration of the disease had more severe acne vulgaris ($P = 0.022$) [Table 2]. Relationship between acne duration and severity of acne.

Table 2

Duration of ac	Grade1	Grade2	Grade 3	Grade 4	Total
0-12	58	17	1	4	80
13-24	45	14	0	7	66
25-36	31	10	1	4	46
49-60	15	9	1	3	28
>60	24	27	4	9	64
					307

For severity of acne 185 patients had grade 1 acne (60.06%). 85 patients had grade 2 acne (27.59%) 8 patients had grade 3 acne(2.5), 30 patients had grade 4 acne (9.7%). In our study we have seen that after face back(27) is the most common involved site.chest (21.21%),neck (8.64%) arms(11%). Seasonal variation was noted only in 79 patients. Only 68 patients (86.07%) had summer exacerbation and 11 patients(13.9) had winter exacerbations. Smokers had more severe acne as compared to non smokers ($p=.0001$).

Discussion

Acne vulgaris is a universal disorder in which every one gets affected..Severity may vary. Some may have a single lesion in their lifetime. Its predominance in this psychologically labile age group leads to huge financial and emotional stress. Hospital-based studies done on acne vulgaris5in Asian population have shown that acne vulgaris constitutes 11.2% and 19.6% of the total new patients attending their hospitals [3, 4]. A survey of Australian private dermatology practices reported that of 3197 new diagnoses, 320 (10%) patients were for acne [5]. In our study, acne vulgaris accounted for 1.06% of the total number of new patients examined in our center. Frequency of acne vulgaris in our study was low probably due to a low prevalence of acne vulgaris among North Indian population.

-Ameer and Al-Akloby [3], in their study of 225 patients with acne vulgaris observed that the age at presentation was 19.2 ± 3.0 years for males and 18.4 ± 4.2 years for females. Kane *et al.* [6] noted that the mean age of presentation of their patients was 25.58 years. The mean age of patients in our study population was 19.78 years ($SD \pm 4.94$). Unlike teenage acne, where males tend to show the most severe forms of the disease, adult acne mainly affects females [1, 5, 6]. In our study also, in the older age group, women were more affected by acne vulgaris than men ($P = 0.01$). In accordance with earlier studies [9, 10], it was found in our study also that severe acne occurred commonly in patients of older age group.

In our study, we graded the severity of acne vulgaris, using a simple and quick system of classification using a four-grade system [11]. Although our study is a hospital-based study, patients with grade 1 (predominantly comedonal)

acne vulgaris outnumbered patients with more severe inflammatory forms of the disease. Similar finding was noticed by Kane *et al.* [6] in their study. he improvement of acne in summer and exacerbation in winter is a conventional dermatological opinion. Studies done in the past have shown varied results regarding seasonal variation in acne vulgaris. A Saudi Arabian study has shown that acne exacerbates in winter, and often improves during the summer months [5]

An Indian study showed that majority of patients with acne vulgaris worsened during summer [12]. In our study, seasonal variation was observed only in 80 patients (25.9%); 71 patients (23%) exacerbated in summer and 9 (2.9%) in winter. This observation was against the conventional view that acne vulgaris exacerbates in winter and improves in summer.

To conclude we had 7429 total patients of which 307 patients were included who had acne. There was a frequency of 1.07% in my study. Mean age group was 18.56 years. Male to female ratio in our study was 1;26:1. The most common age group involved was 16 to 21 years of age. Premenstrual flare was noted in 56.81% of females. Mean age of onset in our study was 14.94 years. Most common involved site was face followed by back (27%), chest (21.21%), neck (8.64%) arms (11%). Seasonal variation was noted only in 79 patients. Only 68 patients (86.07%) had summer exacerbation and 11 patients(13.9) had winter exacerbations. Smokers has more severe acne as compared to non smokers ($p=.0001$).For severity of acne 185 patients had grade 1 acne(60.06%),85 patients had grade 2 acne (27.59%) 8 patients had grade 3 acne(2.5),30 patients had grade 4 acne (9.7%).

This study brings out the clinical profile of acne vulgaris in a tertiary care hospital in North India. As this study is hospital based and carried out at a tertiary care center, future studies with more number of patients and even population-based studies can truly find the prevalence of acne vulgaris in our community.

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