



A PROFILE OF ACNE VULGARIS: A HOSPITAL BASED STUDY

Dr. Atul Dilip Mohankar*

MBBS, MD (Dermatology, Venereology and Leprosy), Associate Professor, Department of Dermatology, Venereology and Leprosy, Chhattishgarh Institute of Medical Sciences (CIMS), Bilaspur, Chhattishgarh, 495001. *Corresponding Author

Dr. Jyoti Prakash Swain

MBBS, MD (Dermatology, Venereology and Leprosy), Professor & HOD, Department of Dermatology, Venereology and Leprosy, Chhattishgarh Institute of Medical Sciences (CIMS), Bilaspur, Chhattishgarh, 495001.

ABSTRACT **Background:** Acne vulgaris is the most common disease of the skin usually in adolescent age group. There are very few studies on the profile of acne vulgaris, and its contributing factors responsible for it. **Aim:** To study the profile of acne vulgaris, its seasonal variation, and possible correlation. **Methods:** The study was conducted in year 2023. All patients with acne vulgaris who consented to participate in the study were included. Different parameters were evaluated and its relation with menstrual cycle, markers of androgenicity, and number of acne lesions and post-acne scarring, post-acne hyperpigmentation, seasonal variation found out. **Results:** A total of 756 patients were included in the study. The frequency of acne vulgaris was 1.29%. Mean age of the study group was 18.62 years. Male to female ratio was 1:1.73. The common age group involved was 15 to 19 years (62.88%). Face was involved in all the patients, There was a higher incidence of scarring (38.72%) and post-acne hyperpigmentation (21.9%). In females 67.9% had premenstrual flare and 13.2% had cutaneous markers of androgenicity. Seborrheic dermatitis (31.15%) was the most common condition associated. Seasonal variation was observed only in 259 patients (34.25%). **Conclusion:** This study brings out the clinical profile of acne vulgaris in a tertiary care hospital.

KEYWORDS : Acne vulgaris, Androgenicity, Post-acne hyperpigmentation,

INTRODUCTION

Acne vulgaris is a chronic inflammatory disorder of the pilosebaceous unit, which is usually starts in adolescence, peaks at the ages of 14 to 19 years and by mid-twenties. Acne vulgaris develops earlier in females than in males, which may be due to earlier onset of puberty in females. Severe forms of acne vulgaris occurs more frequently in males, but the disease tends to be more persistent in females. Severity of the disease varies markedly from one individual to the other depending upon the interplay of various factors involved in the development of acne vulgaris¹. Acne was mainly present in seborrheic areas and has a premenstrual flare in females².

Acne can cause significant emotional distress and physical scarring if left untreated. There are very few Indian study on the profile of acne vulgaris, its seasonal variation, and its correlation with markers of androgenicity in females. Our study was undertaken to consider these issues in acne.

METHODS

This study was conducted between January 2023 and December 2023. All patients with acne vulgaris attending our outpatient department who consented to participate in the study were included. Patients with acne vulgaris not willing to participate in the study and patients with drug-induced acne were excluded. The parameters evaluated include age, gender, age of onset, duration of lesions, site of lesions, grade, relation to menstrual cycle, markers of androgenicity, number of acne lesions such as comedones, papules pustules and nodules, number and site of post-acne scarring, post-acne hyperpigmentation, seasonal variation. Acne vulgaris was graded using a simple grading system taking into account the predominant lesion to grade acne, which classifies acne vulgaris into four grades³.

Grade 1: Comedones, occasional papules
 Grade 2: Papules, comedones, few pustules
 Grade 3: Predominant pustules, nodules, abscesses
 Grade 4: Mainly cysts, abscesses, widespread scarring

Institutional ethical committee clearance was obtained. Data collected from the patients were tabulated in a Microsoft Excel worksheet and a computer-based analysis of the data was done.

RESULTS

The study included 756 acne patients out of 58585 new patients who attended the dermatology OPD during the study period and the frequency was 1.29%. Out of the 756 patients, 480 (63.49%) were females and 276 (36.51%) were males. Male to female ratio was 1:1.73. The most common age group involved was 15 to 19 years

(62.88%). Mean age of onset was 16.97 years. Face was involved in all the patients, followed by back (24.2%), chest (18.2%), neck (9%) and arms (10%). A total of 521 patients (68.91%) had grade 1 acne vulgaris, 208 (27.51%) had grade 2 acne, 43 (5.68%) had grade 3 acne and 105 (13.88%) had grade 4 acne vulgaris. There was a higher incidence of scarring (38.72%) and post-acne hyperpigmentation (21.9%) in our study. In female patients, 67.9% had premenstrual flare and 13.2% had cutaneous markers of androgenicity. Seborrheic dermatitis (31.15%) was the most common disease associated. Seasonal variation was observed only in 259 patients (34.25%); 240 patients (31.74%) exacerbated in summer and 19 patients (2.51%) in winter.

DISCUSSION

Acne vulgaris is a common condition that mainly occurs in adolescence. Australian survey of private dermatology practices reported that 320 (10%) patients were for acne out of 3197 cases⁴. In our study, acne vulgaris accounted for 1.29% of the total number patients examined in our center. Frequency of acne vulgaris in our study was low probably because study was done in government hospital and patients of acne were not worried. Al-Ameer and Al-Akloby 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 females⁵. The mean age of patients in our study was 18.62 years and women were more affected by acne vulgaris than men ($P = 0.01$) and it develops earlier in females than in males⁶. The earlier onset of clinical acne in girls than boys is presumably related to their earlier puberty. However, in our study, there was no significant difference regarding the age of onset of acne vulgaris among both sexes. Acne vulgaris occurs in sites, which are rich in pilosebaceous units. It was noticed in our study that face was involved in all the patients with acne vulgaris (100%), back was involved in 24.2%, chest was involved in 18.2%, neck was involved in 9% and arms were involved in 10%. These observations are in accordance with data from earlier literature⁷. The primary and the pathognomonic lesion of acne vulgaris is a comedone, Cunliffe et al reported that comedones were the most common type of lesion⁸. The most common type of lesion in our group of acne patients was closed comedones. 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. Kane et al noticed that 40.2% of their 93 patients with acne vulgaris had post-acne scarring. Lower incidence of post-acne scarring in acne vulgaris patients has been recorded in other studies⁹. We also observed that patients with longer duration of the disease were more likely to have post-acne scarring. This is an expected finding, which is also reported in earlier studies. Postinflammatory hyperpigmentation is a common complication of

acne vulgaris, particularly in pigmented skin Kane et al noted that 21.9% of their patients had post-acne pigmentation. Similarly, Yeung et al observed 552 adolescent patients with acne vulgaris, of which 52.6% had hyperpigmentation¹⁰. Post-acne hyperpigmentation was observed in 67.9 % patients in our study. The incidence of postinflammatory hyperpigmentation in our study was lower compared to that in earlier studies. The premenstrual acne flares is well recognized. Stoll et al found an overall 44% prevalence of premenstrual flare¹¹. Premenstrual flare was found in 67.9% of female patients in our study. The incidence of hirsutism and irregular menses observed in Stoll et al varied between 0% to 21% and 15.5% to 48%, respectively. The corresponding figures in our study were 9.48% and 10.2%, respectively. Both acne vulgaris and seborrheic dermatitis have predilection for the seborrheic areas and it is well known that seborrhea plays a central role in the pathogenesis of both the diseases¹². In a Spanish study involving 2159 patients with seborrheic dermatitis, acne vulgaris was the most common concomitant disease seen in 35% of the subjects¹³. Seborrheic dermatitis was the most common disease associated with acne vulgaris in our study. 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 months⁷. An Indian study showed that majority of patients with acne vulgaris worsened during summer. 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 observe was against the conventional view that acne vulgaris exacerbates in winter and improves in summer.

To conclude, our study included 756 patients with acne vulgaris, with the frequency of the disease being 1.29%. The mean age of the patients was 18.62 years and the male to female ratio was 1:1.73 Most patients were in the age group of 15-19 years (62..8%) . Face was involved in all cases and it is alone involved in 523 (69.17%) cases. There were 521 patients (68.91%) with grade 1 acne vulgaris, 208 (27.51%) with grade 2 acne, 43 (5.68%) with grade 3 acne and 105 (13.88%) with grade 4 acne. Closed comedones were the predominant lesions and Scarring and hyperpigmentation, were observed in 38.72% and 21.9% of patients, respectively. Ninety nine of our female patients (13.2%) had cutaneous markers of androgenicity. The most common disease associated was seborrheic dermatitis (31.15%). Seasonal variation was observed only in 259 patients (34.25%); 240 patients (31.74%) exacerbated in summer and 19 patients (21.9%) in winter.

This study brings out the clinical profile of acne vulgaris in a tertiary care center, as this hospital study future studies with more number of patients and even population-based studies can truly find the prevalence of acne vulgaris in our community. The drawback of this study was that female patients who had clinical markers of androgenicity were not explored for hormonal abnormality.

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