



A RETROSPECTIVE STUDY ON CLINICO-EPIDEMIOLOGICAL ASPECT OF ADULT ONSET ACNE IN A TERTIARY CARE HOSPITAL IN NAVI MUMBAI

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ABSTRACT **Background:** Although acne is recognized as an adolescent skin disorder, its prevalence is increasing in adults. There is paucity of data in Indian population on clinical features and prevalence of adult onset acne.

Aim: To establish the prevalence, etiological factors, pattern of adult acne and its impact on quality of life.

Materials And Methods: Tertiary care hospital retrospective study using 7 year (2012-2019) data of patients with acne over 25 years of age were included in the study. A detailed history of aggravating, associated factors, epidemiological and clinical examination were carried out. Quality of life (QoL) was measured using an acne specific Cardiff Acne Disability Index (CADI) questionnaire.

Results: Out of 227 patients included in our study, 170 (74.9%) were women and 57 (25.1%) were men. Majority of patients in the study had grade II acne in 125 (55.07%). Though multiple sites were involved, face was affected in all patients and lesions on cheeks were seen in 91.9% patients. Scarring was seen in 50 (22.02%) patients. Food was an aggravating factor in 74 (32.60%) patients as was stress in 60 (26.43%) patients, more in women (75.56%) than in men (24.44%). Aggravation of acne due to cosmetics was seen in 33 (14.54%). Mean Cardiff Acne Disability Index (CADI) score was 6.66 which indicates moderate impairment of QoL.

Conclusion: This study brings out the clinical profile of adult acne in a tertiary care hospital.

KEYWORDS : Acne, adult, aggravating factors

INTRODUCTION:

Acne is considered widely as a chronic skin disease that primarily affects individuals going through puberty, with a prevalence of almost 95 percent among this population.^[1] Adult onset acne is defined as pilosebaceous units chronic inflammatory disease occurring beyond the age of 25 years.^[2] There are two types of adult acne, adolescent acne persisting beyond the age of 25 years is called persistent adult acne and acne developing for the first time after the age of 25 years is called as late-onset adult acne.^[3]

Acne is graded according to the Indian Acne Alliance (IAA) grading^[4] as

- Mild (Grade I)- Comedones<30, Predominance of comedones. Papules <10, No Scarring
- Moderate (Grade II)- Comedones any number, Predominance of papules>10, Scarring +/-
- Severe (Grade III)- Comedones any number, papules any number, Nodules/cysts>3, Scarring +

Etiology of adult acne can be multifactorial like genetic predisposition, hormonal fluctuations, cosmetics, over the counter medications, stress, antibacterial resistant Propionibacterium acnes, certain foods with high glycemic index diets. Approximately one-third of the affected women have other signs of hyperandrogenism.^[5] Acne is associated with great psychological burden. Patients experience depression, anxiety, and low self-esteem because of acne^[4,6]

MATERIALS AND METHODS:

The study was a retrospective cross sectional questionnaire based study conducted in outpatient department of dermatology, of a Tertiary care hospital. Participants included satisfied the inclusion criteria and enrolled voluntarily into the study. Ethics committee approval was taken for the study and written informed consent was taken from all the patients. A 7 year data of patients with acne over 25 years of age were included in the study.

A detailed history was taken from all cases and quality of life (QoL) was measured using an acne specific Cardiff Acne Disability Index (CADI) questionnaire.^[7]

Statistical Analysis:

Statistical analysis was carried out using statistical chi square test

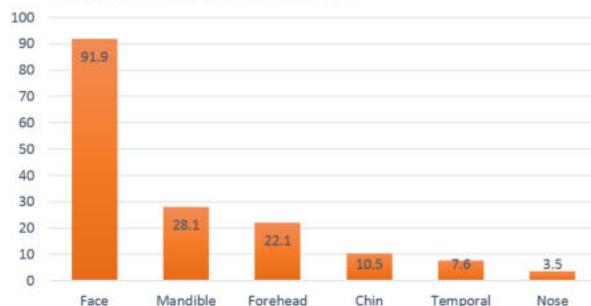
performed to verify the associations between two variables. p value of <0.05 was considered statistically significant.

RESULTS:

Out of 227 patients included in our study, 170 (74.9%) were women and 57 (25.1%) were men. Mean age of patients was 29.5 years with a range of 25-52 years. Persistent acne was present in 43 (18.95%) and late onset acne was present in 184 (81.05%).

Majority of the patients in our study had grade II acne in 125 (55.07%) followed by grade I in 65 (28.63%) and grade III in 37 (16.30 %). Though patients had simultaneous involvement of multiple sites, the predominant sites of involvement were cheek (91.9%), mandibular area (28.1%), forehead (22.1%) and chin (10.5%) while other areas involved were temporal area in 7.6% and nose in 3.5%. Areas other than face included chest in 5.8% and back involvement in 7.6%. (Table 1)

PERCENTAGE OF PATIENTS



Graph 1: Site Distribution Of Acne Among Patients.

Food was the most common aggravating factor seen in 74 patients (32.60%), and the common foods associated with it were meat 26 (35.14%), oily food 13 (17.33%), junk food 7 (9.4%), milk 9 (12.1%), mango 7 (9.46%) and spicy food 6 (8.1%). Seasonal variation was seen in 64 patients (28.19%), among which summer aggravation was most common and was seen in 41 (64.06%) followed by winter in 8 (12.5%), rainy season in 2 (3.13%).

Stress as an aggravating factor was seen in 60 (26.43%) patients, more in women (75.56%) than in men (24.44%). Aggravation of acne due to cosmetics was seen in 33 (14.54%), which included fairness creams in

13 (3.39%), oil in 5 (15.15%), foundation creams in 7 (21.22%), concealer creams in 5 (15.15%) and moisturizers in 3 (9.09%); and post parlor procedure aggravation was seen in 21 (9.25%) which included facial (15) and bleaching (6) procedures. Drugs aggravated acne in 19 (8.37%), in which topical were 15 (78.95%) and oral were 4 (21.05%).

Associated conditions like obesity was seen in 30 patients (13.22%), seborrhea in 104 patients (45.8%), hirsutism in 9 patients (3.96%), androgenetic alopecia in 16 patients (7.05%) and acanthosis nigricans in 12 patients (5.28%).

Menstrual abnormalities observed in 27 female patients. However only 13 patients were investigated due to financial constraints, among which ultrasonography (USG) of 6 patients' favored diagnosis of polycystic ovarian disease (PCOD) with normal hormonal profile and 7 had normal levels of LH, FSH, prolactin, testosterone, DHEAS and USG pelvis.

Complications like scarring were observed in 50 patients (22.02%). It was more common in females 7 (14%) Post inflammatory hyperpigmentation was observed in 32.6% of patients in which 23.39% were females.

In our study mean CADI score was 6.66 indicating moderate impact on Quality of life. The average score for each question was 1.42 for relation to feeling of aggression and frustration, 1.26 for interference with social life, 0.53 for avoidance of public changing facilities, 1.75 for appearance of the skin over the last month and 1.70 for indication of how bad the acne is now. However no significant association was present between CADI scores and age (p-value 0.343).

DISCUSSION:

Only a few reports were found on adult onset acne as it is usually a disease of adolescent age. The first study on adult acne prevalence was by Cunliffe et al.⁽⁸⁾ In our study adult acne was seen more commonly in women (74.9%), which was also reflected in a French study⁽⁹⁾.

In our study, grade II acne (55.07%) was most common. Similar finding in other studies where grade II acne (55%) seen in maximum patients like in Khunger et al.⁽³⁾ In our study we noticed comedonal acne decreased with the increase in age. The most common site of involvement in our study was cheeks (91.9%) followed by mandibular area (28.1%). Similarly cheeks was most common site in studies by Khunger et al.⁽³⁾ Food (32.60%) played a significant role as an aggravating factor for acne which was in contrast to other studies like Kucharska et al.⁽¹⁰⁾ Summer aggravation was seen in majority of patients (28.19%) Similarly an Indian study observed that in a majority (80.62%) of patients a summer aggravation of acne was seen.⁽¹¹⁾ Aggravation due to stress was present in 26.43%. Similar finding suggests association between emotional stress and cortisol. Stress in women increases androgen secretion resulting in acne.⁽¹²⁾

In our study aggravation due to cosmetics was seen in 14.54%. The concept of "acne cosmetica" was introduced in 1972 by Kligman and Mills to link middle-aged female acne with the use of cosmetic formulations containing certain ingredients capable of producing comedones.⁽¹³⁾

Associated conditions like obesity was seen in 30 (13.22%), seborrhea in 104 (45.8%), hirsutism in 9 (3.96%), androgenetic alopecia in 16 (7.05%) and acanthosis nigricans in 12 (5.28%). The parentage of associated conditions like obesity and androgenetic alopecia was higher in the study by Khunger et al, in which it was 6.4% and 1.8% respectively.⁽³⁾

In our study, scarring was observed only in 22.02% and post inflammatory hyperpigmentation in 32.6% of patients. Adityan et al had similar finding where scarring was observed in 39.5% and hyperpigmentation in 24.6%.⁽¹⁴⁾

In our study mean CADI score was 6.66, indicating moderate impact on Quality of life, while in study by Durai et al. Mean CADI score was 5.2. There was no significant association between CADI and age in our study which was in contrast to Durai et al. in which the association was statistically significant.⁽¹⁵⁾

CONCLUSION:

Adult acne was more commonly seen in females and involved mainly

cheeks and mandibular area. External factors like food, season, stress and cosmetics had significant etiological role in our study. It has a significant impact on QoL so its assessment is essential to detect those patients who are at risk of being negatively affected and treat them in an integrated manner.

Limitations of our study were the findings confined to a specific and limited area of study. Hormonal assays were performed in limited number of patients and CADI scoring was not done after the treatment and improvement of acne lesions.

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