

Original Research Article

Clinical profile of 50 premenopausal women with hirsutism

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Received: 15 January 2019

Accepted: 13 March 2019

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ABSTRACT

Background: Hirsutism is a common condition, affecting up to 10% of women and may be associated with signs and symptoms of hyperandrogenism. The aim of this study was to study the clinical characteristics of patients presenting with hirsutism and to correlate the severity of hirsutism with the presence of these features.

Methods: A hospital based, cross sectional prospective study was conducted on 50 patients with clinically diagnosed hirsutism. Scoring of hirsutism was done using modified Ferriman –Gallwey scoring system following which a complete history was taken and thorough examination of all patients in the study group was carried out for features associated with hirsutism.

Results: Maximum (60%) patients had mild hirsutism, 30% had moderate hirsutism and 10% patients had severe hirsutism. Acne was the most commonly occurring clinical feature, occurring in 50% of the patients followed by menstrual irregularities in 46%, striae and obesity in 42% and acanthosis nigricans in 40% of the patients. Other features seen were androgenic alopecia in 26%, infertility in 16.67% and deepening of voice in 4% of participants.

Conclusions: Hirsutism is a multifaceted condition and this study highlights the need for a thorough clinical examination in order to identify possible associated conditions which may provide significant clues for the underlying cause of hirsutism.

Keywords: Hirsutism, Acne, Severity, Menstrual irregularities

INTRODUCTION

Hirsutism is defined “as excessive terminal hair that appears in a male pattern in women”.¹ It is different from hypertrichosis which actually refers to excessive hair in areas that are not predominantly androgen dependent.² The modified Ferriman-Gallwey (F-G) score is used to determine the severity of hirsutism by assessing the extent of hair growth in nine key anatomical sites- upper lip, chin, chest, abdomen, pelvis, upper arm, thighs, upper back, and lower back.³ Hirsutism is defined objectively by modified Ferriman-Gallwey ≥ 8 (m-FG).¹ Face, chest and lower abdomen have a higher impact on hirsutism score, whereas areas like upper back, abdomen and lower back are rarely involved in Indian women.⁴ Hirsutism

may be associated with obesity, insulin resistance, diabetes, polycystic ovary syndrome (PCOS), hypertension, infertility, and menstrual irregularities.^{5,6} Other accompanying signs and symptoms of hyperandrogenism include acanthosis nigricans, obesity, signs or symptoms of virilization, features of Cushing’s syndrome, acne, increased sebaceous activity and alopecia.⁷ Patients may show clinical signs of virilization such as fronto-parietal (male pattern) hair loss, acne, amenorrhoea and sometimes masculinization of the muscle mass, hypertrophy of vocal cords or clitoromegaly.⁵ Hirsutism is a frequent reason of cosmetic embarrassment, poor self-esteem, and psychological distress for women world over.⁷ In this study, we report the clinical profile of 50 premenopausal women with hirsutism.

METHODS

A hospital based, cross sectional prospective study was conducted on 50 patients with clinically diagnosed hirsutism. This study was conducted in the Dermatology outpatient department of Netaji Subhash Chandra Bose Subharti Medical College and Hospital, Swami Vivekanand Subharti University, Meerut. The study was conducted between January 2017 and June 2018 (18 months) after obtaining ethical committee clearance. Newly diagnosed, untreated patients of hirsutism. (modified Ferriman-Gallwey score ≥ 8) in the age group 15-45 years were included in the study. Pregnant or Lactating women and those who had received oral contraceptive pills, insulin sensitizers, and/or other anti-androgen drugs in the past three months were excluded from the study. A thorough history related to onset and duration of hirsutism, stress, weight gain, medications, menstrual irregularities, infertility, family history of hirsutism and presence of symptoms of virilization were taken. A thorough physical examination with specific emphasis on Body Mass Index, signs of virilization and detailed systemic examination was done. Clinical features were correlated with each other using chi-square test. p value of <0.05 was considered significant. An attempt to establish correlation between various parameters was done. The statistical software used was Microsoft Excel and SPSS software version 16.0 for analysis of data and Microsoft Excel to generate graphs, tables etc.

RESULTS

In the present study, maximum number of patients (28%) who presented with hirsutism was 20-24 years of age. The mean age at presentation was 26.3 years. Twenty-one (42%) of the total patients had a family history of hirsutism. In our study, maximum number of patients (64%) who presented with hirsutism was unmarried. Age of onset of hirsutism for patients in the study was 20 years or lesser for 20 (40%) patients and more than 20 years for 30 (60%) patients.



Figure 1: (A) Hirsutism over chest (m-FG grade = 2); (B) hirsutism over chin (m-FG grade =4).

The severity of hirsutism was determined by the modified Ferriman-Gallwey score and graded as mild, moderate or

severe hirsutism. We found that maximum (60%) patients had mild hirsutism, 30% patients had moderate hirsutism and 10% patients had severe hirsutism. The mean m-FG score observed in the present study was 15.22. The mean m-FG scores were highest for chin and upper lip followed by lower abdomen, chest. (Figure 1 A and B) The duration of hirsutism ranged from 1-12 years and mean duration was 4.07 years We found that majority of the patients (86%) had hirsutism for a period of 6 years or less. The correlation between duration and severity of hirsutism was found to be statistically significant ($p < 0.001$) (Table 1).

Table 1: Correlation between duration and severity of hirsutism.

Duration (yrs)	Severity of hirsutism			Total
	Mild	Moderate	Severe	
	N (%)	N (%)	N (%)	N (%)
≤ 6	30 (69.8)	12 (27.9)	1 (2.3)	43 (100)
> 6	0 (0)	3 (42.9)	4 (57.1)	7 (100)
Total	30	15	5	50 (100)

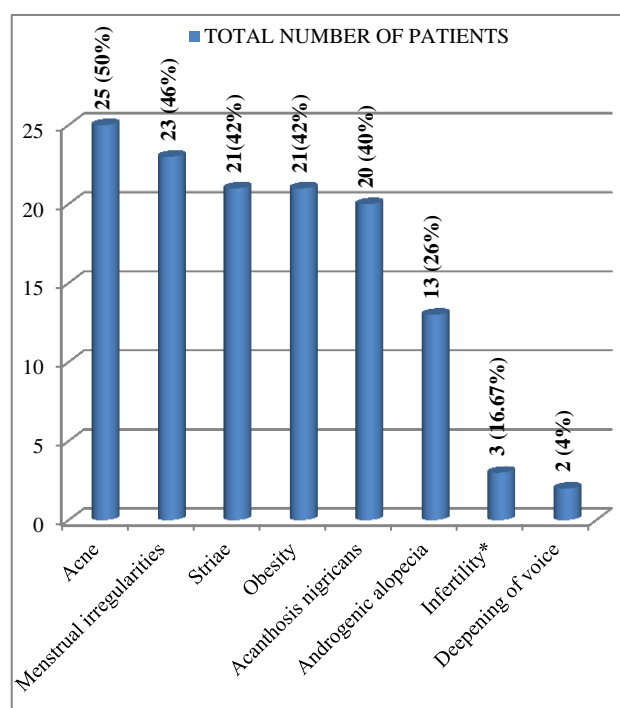


Figure 2: Associated clinical features.

The associated clinical features have been shown in Figure 2. Acne (Figure 3) was the most commonly occurring clinical feature in the study population, occurring in 50% of the patients. Of the 30 patients with mild hirsutism, 7 (23.3%) had acne vulgaris. Of the 15 patients with moderate hirsutism, acne was seen in 13 patients (86.7%). All patients (100%) with severe hirsutism had acne. This correlation between severity of hirsutism and acne was found to be statistically significant (Figure 4). Menstrual irregularities were found in 46% of the patients. 13 of the 30 patients with mild

hirsutism (43.3%), 33.3% of patients with moderate hirsutism and 100% of patients with severe hirsutism had menstrual irregularities. This observation was not found to be statistically significant ($p>0.1$). In this study we found 21 patients (42%) to be obese. The correlation between obesity and severity of hirsutism was found to be statistically significant. Mean BMI was 24.01. 40% had acanthosis nigricans (Figure 5), 26% had androgenic alopecia (Figure 6), 16.67% participants had infertility and 4% patients had deepening of voice.



Figure 3: Acne in a patient with hirsutism.

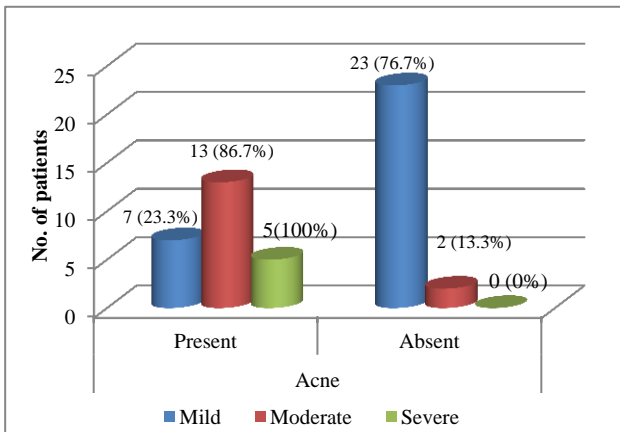


Figure 4: Correlation between severity of hirsutism and acne.

In the present study, 8 patients (16%) presented with SAHA (Seborrhoea, acne, hirsutism, alopecia) syndrome. Of these, 3 patients had moderate hirsutism and 5 had severe hirsutism. In our study, 2 patients gave a history of deepening of voice, both of who had severe hirsutism. This correlation between deepening of voice and severity of hirsutism was found to be statistically significant ($p<0.001$).



Figure 5: Acanthosis nigricans over the anterior neck in a patient with severe hirsutism.



Figure 6: Androgenetic alopecia in a patient with hirsutism.

DISCUSSION

Age of onset of hirsutism for patients in the study was 20 years or lesser for 20 (40%) patients and more than 20 years for 30 (60%) patients with a mean age at onset being 22.23 years. The mean age is similar to the findings of Al -Khawajah et al who reported a mean age of onset at 19.3 years.⁸ Twenty-one (42%) of the total patients had a family history of hirsutism and 29 (58%) had no family history. Similarly, Chhabra et al and Malik et al reported positive family history in 42.5% and 46.7% patients respectively. In our study, out of the 21 patients who had a family history, 6 (28.6%) had mild hirsutism, 12 (57.1%) had moderate and 3 (14.3%) had severe hirsutism.^{9,10} Maximum number of patients (64%) in our

study were unmarried. Similarly, Sharma et al and Ansarin et al reported most of the patients (80%, 73.8%) attending the hirsutism clinic to be unmarried.^{11,12}

The severity of hirsutism was graded as per modified Ferriman-Gallwey scoring system according to which a score of less than 8 = no hirsutism, 8-16 = mild hirsutism, 17-25 = moderate hirsutism and greater than 25 = severe hirsutism. Of the 50 patients studied, 30 (60%) patients had mild hirsutism, 15 (30%) patients had moderate hirsutism and 5 (10%) patients had severe hirsutism. Similarly, a study in Iran found mild hirsutism in 65% patients, moderate hirsutism in 32.5% patients and severe hirsutism in only 2.5% patients.¹² Other studies with similar findings include that by Jahanfar et al who reported mild hirsutism in 52%, moderate hirsutism in 29% and severe hirsutism in 19% patients, and Lakhani et al who found mild hirsutism in maximum patients (95.45%).^{13,14} Acne was the most commonly associated clinical feature in the study population, occurring in 50% of the patients. The correlation between severity of hirsutism and acne was found to be statistically significant ($p < 0.001$). A similar statistical correlation was found by Chhabra et al.⁹ This is likely to be due to hyperandrogenemia which will promote the development of both acne and hirsutism. Similarly, Sharma et al and Chhabra et al reported acne in 60% and 55% patients respectively.¹¹ Sharma et al also found acne in 64% patients.⁷ Further, Puri and Lakhani et al found acne in 38% and 34.09% patients respectively.^{14,15} Puri found it to be the most common association and Lakhani et al found it to be the second commonest association following hair loss.^{14,15}

Menstrual irregularities were found in 23 (46%) patients in our study. 13 of the 30 patients with mild hirsutism (43.3%), 33.3% of patients with moderate hirsutism and 100% of patients with severe hirsutism had menstrual irregularities. This observation was not found to be statistically significant ($p > 0.1$). These findings were similar to Lakhani et al and Chhabra et al who reported menstrual irregularities in 45.45% and 40% patients respectively.^{9,14} Zargar et al also found menstrual cycles to be irregular in 50.8% of patients complaining of hirsutism.¹⁶

In this study we found 21 patients (42%) to be obese. Mean BMI was 24.01. Twelve (40%) of the 30 patients with mild hirsutism were obese. 5 (33.3%) of 15 patients with moderate hirsutism had obesity, and (80%) of patients with severe hirsutism had obesity. The correlation between obesity and severity of hirsutism was found to be statistically significant ($p < 0.01$). Similarly, Lakhani et al and Chhabra et al found the correlation between obesity and severity of hirsutism to be statistically significant.^{9,14}

Acanthosis nigricans was found in 20 (40%) patients. However, Puri and Sharma et al reported 14% and 6% prevalence of acanthosis nigricans in patients with

hirsutism respectively.^{7,15} This can be explained by the fact that Puri reported half the prevalence of obesity in patients with hirsutism as compared to our study and none of the patients in the study by Sharma et al were obese.^{11,15} It is well documented that obesity and acanthosis nigricans have a strong correlation.

13 out of 50 (26%) patients studied had androgenic alopecia. Similarly, Chhabra et al found AGA in 27.5% patients.⁹ However, Lakhani et al¹⁴ found hair loss in 45.5% patients. This greater number could be explained by the fact that Lakhani et al included all cases of hair loss including telogen effluvium as opposed to the present study and Chhabra et al where only cases of AGA were recorded.^{9,14}

In our study, 2 of the 50 (4%) women studied gave a history of deepening of voice. Both these patients with a history of voice change had severe hirsutism. This correlation between deepening of voice and severity of hirsutism was found to be statistically significant ($p < 0.001$). Similarly, Sharma et al found a history of voice change in 2% patients.¹¹ No patient in our study presented with decreased libido or clitoromegaly.

The impact of hirsutism symptoms on a woman's quality of life may be profound and can result in psychological distress that threatens her feminine identity.¹⁷ The condition may therefore result in altered self-perception, a dysfunctional family dynamic, and problems at work.^{18,19} Hirsutism is a multifaceted condition and this study highlights the need for a thorough clinical examination in order to identify possible associated conditions which may provide significant clues for the underlying cause of hirsutism.

ACKNOWLEDGEMENTS

We thank Dr. BS Rathore for comments that greatly improved the manuscript.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: The study was approved by the institutional ethics committee

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Cite this article as: Panjwani S, Krishna A, Singh G, Arora D. Clinical profile of 50 premenopausal women with hirsutism. *Int J Res Dermatol* 2019;5:388-92.