

A Study of association of polycystic ovary syndrome with hirsutism- A prospective observational study in a Tertiary Care Hospital

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Abstract

Background: Hirsutism is the excessive hairiness on women in those parts of the body where terminal hairs are normally absent or minimal, such as face, chest and abdomen.

Aim: To study the association of polycystic ovary syndrome with hirsutism.

Objective: To study the association of polycystic ovary syndrome in hirsutism patients attending Dermatology OPD of C.R. Gardi Hospital, Ujjain, M.P., over a period of 1 year.

Materials & Methods: Thirty patients were enrolled in the study between the age group 15-45 having hirsutism. Abdominal ultrasonography was done on all patients.

Results: Out of Thirty patients, ultrasonography revealed polycystic ovary syndrome in 20 (66.7%) patients and normal in 10 (33.3%).

Conclusion: Polycystic ovary syndrome was the most common cause of hirsutism 20 (66.7%) found in our study.

Keywords: Hirsutism, Terminal hairs, Excessive hairiness, Polycystic ovary syndrome, Ultrasonography.

Introduction

Hirsutism refers to the growth of coarse, dark hair in areas where women typically grow fine hair or no hair at sites such as above the upper lip, chin, chest, abdomen and back. This excess hair growth is caused by an increased level of male hormones (androgens). Hirsutism can be caused by abnormally high androgen levels secreted from ovaries/adrenal gland or because of hair follicles being more sensitive to normal androgen levels^[1]. Causes of ovarian hyperandrogenism are PCOS and virilizing ovarian neoplasms like luteoma of pregnancy, leydig cell tumours, hilar cell tumours, theca cell tumours etc. However, PCOS alone accounts for 75-80% cases of hyperandrogenism. Causes of adrenal hyperandrogenism include congenital adrenal hyperplasia, late onset adrenal hyperplasia, Cushing's syndrome, pituitary adenoma and acromegaly^[2]. There are numerous causes of hirsutism, even though, most common cause is PCOS and to a lesser extent, idiopathic familial hirsutism.

There are currently two prevalent diagnostic consensus criteria for PCOS:

1. National Institutes of Health criteria 1990^[3]—the following criteria should be fulfilled for the diagnosis of PCOS
 - Clinical (acne or hirsutism) and/or biochemical hyperandrogenaemia (measured elevated androgen levels)
 - Menstrual irregularity
2. Rotterdam criteria 2003^[4]—two of the following three criteria need to be fulfilled for the diagnosis of PCOS

- Clinical (acne or hirsutism) and/or biochemical hyperandrogenaemia (measured elevated androgen levels)
- Menstrual irregularity
- Polycystic ovarian morphology on ultrasonography

Materials & Methods

The present study was a prospective observational study conducted among patients attending Dermatology OPD in C.R. Gardi Hospital, Ujjain, Madhya Pradesh with a diagnosis of hirsutism and Rotterdam criteria 2003^[4] was used for diagnosing PCOS. A total of 30 cases of clinically diagnosed hirsutism patients of reproductive age group(15-45 years) constituted the subject material for the present study. Prior approval for the study and the protocol was obtained from the ethical committee. Pregnant or lactating women and those who received oral contraceptive pills and/or other anti-androgen drugs in the past three months were excluded. Informed written consent was taken from the cases for inclusion in the study. Detailed history and clinical examination findings of Hirsutism cases was done. Abdominal ultrasonography was done on all 30 hirsute patients. The data were collected and transferred to SPSS version 16 and analyzed accordingly.

Results & Observations

This study was carried out in the department of Dermatology, Venereology and Leprology, R.D. Gardi Medical College and Hospital, Ujjain, M.P., over a period of one year. Thirty female patients of hirsutism of reproductive age who presented in our hospital as outdoor were included in our study.

Table 1: Distribution of cases according to Pelvic USG Finding

Pelvic USG finding	No. of patients	Percentage
Normal	10	33.3
PCOS	20	66.7
Total	30	100.0

Ultrasonography was done on all 30 hirsute patients, PCOS was found in 20 (66.7%) while 10 (33.3%) had normal ultrasonographic findings as shown in Table 1.

Discussion

Different studies have been conducted on the etiological and biological aspects of hirsutism and role of polycystic ovary syndrome. The severity of hirsutism in particular areas of the body varies in different patients and depends on the rate of androgen excess or increased sensitivity of hair follicles to normal androgen levels in the serum. This study was carried out in the Department of Dermatology, Venereology and Leprology of C.R. Gardi Hospital, Ujjain, M.P. over a period of one year. Thirty patients between the age group of 15-45 years suffering from hirsutism who presented in our hospital as outdoor were included in our study.

In our study, Ultrasonography was done on all 30 hirsute patients, PCOS was found in 20 (66.7%) while 10 (33.3%) were found to be normal. This is in accordance with the study of **Ram Krishnan Gautam, Bindu Kulshreshtha, Akhilandeswari Prasad et al** where PCOS was found in 70% patients^[5] while **Hajieh Shahbazian, Mehrnoosh Zakerkish, Neda Heidari-Manesh** reported in 52.7% patients^[6] **Divya Sharma, Vinay Shanker, Gitaram Tegta, Mudita Gupta, and Ghanshyam Kumar Verma** reported the same in 38% patients^[7] and **Nand Lal Sharma, Vikram K Mahajan, Rashmi Jindal, Mudita Gupta, and Anju Lath** reported 30% patients^[8].

Conclusion

According to the study done, PCOS was found in 20 (66.7%) patients. Hence, it was concluded that PCOS is the most common cause or associated factor in the patients having hirsutism. Diagnosing PCOS will help in management of hirsutism in females.

References

1. Knochenhauer ES, Key TJ, Kahsar-Miller M, Waggoner W, Boots LR, Azziz R. Prevalence of the polycystic ovary syndrome in unselected black and white women of the southeastern United States: A prospective study. *J Clin Endocrinol Metab* 1998;83:3078-82.
2. Redmond GP, Bergfeld WF. Diagnostic approach to androgen disorders in women: Acne, Hirsutism and Alopecia. *Cleve Clin J Med* 1990;57:423-7.
3. Zawadeski JK, Dunaif A. Diagnostic criteria for PCOS: towards a more Rational approach. In: Dunaif A, Givens

- JR, Haseltine FP et al., eds. *PCOS*. Boston: Blackwell Scientific, 1992:377-84.
4. Rotterdam ESHRE/ASRM-sponsored PCOS Consensus Workshop Group. Revised 2003 consensus on diagnostic criteria and long-term health risks Related to polycystic ovary syndrome (PCOS). *Hum Reprod* 2004;19:41-7.
5. Sunny Chhabra, Ram Krishnan Gautam, Bindu Kulshreshtha, Akhilandeswari Prasad, and Neera Sharma Hirsutism: A Clinico-investigative Study *Int J Trichology*. 2012 Oct-Dec; 4(4): 246-250.
6. Hajieh Shahbazian, Mehrnoosh Zakerkish, Neda Heidari-Manesh Etiology of Hirsutism in Women Referring to Endocrinology Clinic in Ahwaz 5 Nov 2012 *ZJRMS* 2013;15(4):69-72.
7. Divya Sharma, Vinay Shanker, Gitaram Tegta, Mudita Gupta, and Ghanshyam Kumar Verma Clinico-investigative Profile of Patients of Hirsutism in a Tertiary Level Institution *Int J Trichology*. 2012 Apr-Jun;4(2):69-74.
8. Nand Lal Sharma, Vikram K Mahajan, Rashmi Jindal, Mudita Gupta, and Anju Lath, hirsutism: clinico-investigative profile of 50 indian patients. *Indian J Dermatol*. 2008;53(3):111-114.