

Management of Hirsutism Associated with Obese PCOD – A Case Report

Niharika Kamble¹, Vinita Gupta², Dr. Sipika Swati³

¹Scholar, 2nd year PG Scholar, PTSR Dept. ITRA Jamnagar.

²Scholar, 3rd year PG Scholar, PTSR Dept. ITRA Jamnagar.

³Mentor, Assistant Professor, PTSR Dept. ITRA Jamnagar

ABSTRACT

Hirsutism is a condition of abnormal growth of hair on any part of the body irrespective of gender. The reason for hirsutism might be genetic or unhealthy lifestyle which triggers the pathogenesis. Women with PCOD particularly associated with hirsutism, have an increased prevalence of reactive depression and minor psychological abnormalities. The overall quality of life is decreased in hirsute women. This case study helps to plan a treatment protocol for the patient with PCOD having irregular, delayed menses & obesity along with hirsutism. A 19 years old unmarried female patient came to OPD of Streeroga Evum Prasutitantra, with complaints of irregular, delayed menstruation, weight gain, facial hair growth with acne from last 1 year. Bilateral bulky ovaries with PCOD were founded in her USG. Her FSH:LH ratio was altered, and her serum testosterone level was raised. 3 months of treatment protocol was given to patient in which Nitya Virechana with Shamana Aushadhi (Kulatthadi Kashaya and Shatapushpa Churna). Her menses became regular after 3 months of treatment & 8 kg of weight was reduced. Her USG report revealed bilateral normal ovaries and volume became normal. She continued Shamana Aushadhi up to 6 months. Her acne was subsided, facial hair growth became scantier with complete stoppage of new hair growth. Her FSH:LH ratio became normal and serum testosterone as well as S. insulin level became normal. This case will give a new hope in the management of hirsutism associated with PCOD by ayurvedic protocol i. e. Nitya Virechana Karma along with Kulatthadi Kashaya and Shatapushpa Churna, also to explore the probable mode of action of these drugs which helped in menstrual regulation, hirsutism, acne and obesity.

KEYWORDS: Hirsutism, PCOD, Irregular menses, Obesity, Kulatthadi Kashaya, Shatapushpa Churna, Nitya Virechana.

INTRODUCTION

Hirsutism is excessive hair growth on parts of the body where hair is normally absent or minimal. It usually refers to a male pattern of hair growth in a female that may be a sign of a more serious medical condition,¹ especially if it develops well after puberty.² Cultural stigma against hirsutism can cause much psychological distress like anxiety and depression.³ Hirsutism is usually the result of an underlying endocrine imbalance, which may be adrenal, ovarian, or central.⁴ It can be caused by increased levels of androgen hormones. The amount and location of the hair is measured by a Ferriman-Gallwey score. About 10 to 15% of cases of hirsutism are idiopathic with no known cause.⁵

The growth of hair on sex-specific areas of the body occurs due to androgens. Androgens stimulate the growth of vellus follicles in sex-specific areas to develop into terminal hairs, which are larger and have increased pigmentation (darker).^{6,7,8,9} Growth recommences with the formation of new hair shaft by the reactivation of the dermal papillae, thereby replacing the old hair. The hair growth cycle takes months to years to be completed, causing a delay in hair growth response to changes from effects of androgens. DHT is a hormone that acts on the hair follicle to produce terminal hair. Differences in the activity of DHT explains why women with the same plasma level testosterone, have different degrees of hirsutism. PCOS is a condition characterized by excess androgens that can lead to hirsutism, irregular periods, and even infertility. The excess androgens can lead to disruptions in normal body hormones in the hypothalamic-pituitary-gonadal axis leading to these symptoms.¹⁰

Hyperandrogenism is a medical condition characterized by high levels of androgens. It is more common in women than men.¹¹ Polycystic ovary syndrome accounts for about 70% of hyperandrogenism cases.¹² Hyperandrogenism, especially high levels of testosterone, can cause serious adverse effects if left untreated. Prominent signs of hyperandrogenism are hirsutism (unwanted growth of hair, especially in the abdominal region and on the back), adult acne, deepening of the voice, and alopecia (balding).¹³ Hyperandrogenism has also been observed to increase insulin tolerance, which can lead to type two diabetes and dyslipidemia, such as high cholesterol. These effects may have psychological impacts, sometimes leading to social anxiety and depression, especially in adolescent girls and young women. Paired with obesity and hirsutism, it can cause the individual to have low self-esteem.¹⁴ Elevated insulin leads to lower production of sex hormone binding globulin (SHBG), a regulatory glycoprotein that suppresses the function of androgens.¹⁵ High blood levels of insulin also work in conjunction with ovarian sensitivity to insulin to cause hyperandrogenemia, the primary symptom of PCOS. Obese individuals may be more biologically inclined to PCOS due to markedly higher insulin. This hormonal imbalance can lead to chronic anovulation, in which the ovaries fail to release mature eggs. These cases of ovulatory dysfunction are linked to infertility and menstrual disturbances.¹⁶ Hyperandrogenism can appear as a symptom of many different genetic and medical conditions. One potential cause of PCOS is maternal hyperandrogenism, whereby hormonal irregularities in the mother can affect the development of fetus.

In Ayurvedic classics, majority of Gynaecological disorders have been described under 8 Artava Dushti and 20 Yonivyapadas. PCOS cannot be included in any one of the Yonivyapada due to its various symptomatology and complex interactions with various systems. According to Ayurveda these clinical features are found in Pushpaghni Jataharini (disease similar to poly cystic ovarian syndrome mostly having hyperandrogenism and anovulatory cycle) and Nashtartava (no growth of follicles and chronic anovulation). Pushpaghni Jataharini has a few clinical features of PCOS like Sthaulya (Obesity), Lomashaganda (hirsutism) and Vrithapushpa (unfruitful ovulation i. e. anovulation) with menstrual irregularities.¹⁷ Vandhya Yonivyapada characterized with Nashtartava is another pathological condition possessing the clinical feature of pathological secondary amenorrhea as in PCOS.¹⁸

PRESENTING CONCERNS

A 19 years old unmarried female patient visited to OPD of Prasuti Evum Streeroga Department of ITRA, Jamnagar on 19/07/2022, with the chief complaints of irregular, delayed menstruation, weight gain, acne and facial hair growth since last 1 year.

Patient had previous history of irregular, delayed menses, weight gain with problem of facial hair growth along with acne since 4 years. For that she took allopathic medications for 3 years and got regular menstruation but her facial hair growth & acne were remains same as previously. From 1 year she stopped taking medication and her menses again became irregular and delayed. That's why she visited to OPD for better management

CLINICAL FINDINGS

Last menstrual period - 28/06/2022

Menarche: - 11 years

Menstrual history: Duration – 6 days,
Interval – 45-60 days
Painless, without clots
3-4 pads/day

GENERAL EXAMINATIONS

On presentation she was an obese girl, with android body. Her height was 157 cm, weight 76 kg, Body mass index of 30.89 kg/m² and blood pressure 110/80 mm Hg. The patient was moderately hirsute over face with thick hair pattern and acne all over the face.

On analyzing her habits, it was found that the patient had history of Vishamashana along with sedentary lifestyle. She had a good appetite and bladder habit and regular bowel with regular sleep pattern.

SYSTEMIC EXAMINATIONS

Central Nervous System – Patient was conscious and well oriented

Cardiovascular System – S1 & S2 normal, no abnormal sounds was heard

Respiratory System – Bilateral clear, no added sounds was there

Per Abdomen examination – Soft, no tenderness

Rogi Pariksha: -

Ashtavidha Pariksha: (As per table no. 1)

1.	Nadi	76/min
2.	Mala	Prakrit
3.	Mutra	Prakrit
4.	Jivha	Saam
5.	Shabda	Spashta
6.	Sparsa	Sheeta
7.	Drika	Prakrit
8.	Akruti	Sthoola

Dashavidha Pariksha: (As per table no. 2)

1.	Prakriti	Vatapradhana Pittanubandhi
2.	Vikriti	Kapha, Vata
3.	Saar	Meda Saar

4.	Samhanana	Madhyam
5.	Pramana	Height: 157 cm Weight: 76 kgs
6.	Satmya	Madhyam
7.	Satva	Madhyam
8.	Ahara Shakti	Abhyavaharana Shakti: Madhyam Jarana Shakti: Avara
9.	Vyayama Shakti	Madhyam
10.	Vaya	Yuvati

DIAGNOSTIC FOCUS AND ASSESSMENT

Investigations:

Hematological tests – Normal

Biochemistry tests – Normal

Serological tests – Normal

Special investigations – (as per table no. 3)

Special investigation (01/08/2022)	
Serum Testosterone (ng/dl)	113 ng/dl
Serum Insulin (μ IU/ML)	25 μ IU/ML
Serum FSH (mIU/mL)	4.99 mIU/mL
Serum LH (mIU/mL)	6.46 mIU/mL

USG findings – (as per table no. 4)

USG Findings (22/08/2022)	
Left ovarian volume	16.5 cc
Right ovarian volume	18 cc
Bilateral bulky ovaries with PCOD	

DIAGNOSIS

Based on the Rotterdam criteria diagnosis was made.¹⁹

- menstrual irregularities i.e., delayed menses
- Hyperandrogenism i.e., presence of hirsutism and acne over face
- Presence of bilateral bulky polycystic ovaries as per USG findings.

THERAPEUTIC FOCUS AND ASSESSMENTS

The treatment protocol included both Shodhana and Shamana. The Shodhana Chikitsa included Nitya Virechana Karma as Mrudu Shodhana which is mentioned in table no. 5 & 6

1. Mrudu Shodhana:

No.	Procedure	Drug & Dose	Duration
1.	Deepana, Pachana	Aampachana Vati 2 Vatis of 500 mg BD before food with luke warm water	7 days (upto Samyaka Jirna Lakshana)
2.	Nitya Virechana Karma	Trivrutta Awaleha 1 tsf in the morning empty stomach with luke warm water.	1 month

2. Shamana Chikitsa:

Sr. No.	Name	Dose & Anupana	Duration
1.	Kulatthadi Kashaya ²⁰	40 ml empty stomach BD morning- evening	6 months
2.	Shatapushpa Churna	5 gm before food BD with Ghrita	6 months

The patient was advised to make fresh Kashaya about 40 ml from 20 gm of Yavakuta and after straining, one gram of Yavakshara Churna was added as Prakshepa. The Aushadhi Kala of Kulatthadi Kashaya was Abhukta Kala. Shatapushpa Churna 1 tsf was advised in Paschatabhakta Kala with Ghrita. The patient was advised to do physical exercise daily for 30 minutes like Suryanamaskara, Yoga, Pranayam and to follow pathya –apathya.

FOLLOW-UP AND OUTCOMES

After 3 months of the treatment patient had regular menstrual cycle.
on 1st visit - 28/06/2022.

LMP

After taking medicines - her next LMP - 28/09/2022,
02/11/2022,
05/12/2022.

Along with that 8 kgs of weight was reduced. Her serum testosterone level, serum insulin level & FSH:LH ratio became normal. Her sonography revealed bilateral normal sized ovaries with normal ovarian volume (Right ovarian volume – 10 cc and left ovarian volume – 9 cc). She also got relief in hirsutism and acne. The growth of facial hairs become delayed and less.

Before Treatment (as per table no 7 and 8)

USG Findings (22/08/2022)	
Uterus – anteverted normal size	
Left ovarian volume	16.5 cc
Right ovarian volume	18 cc
Bilateral bulky ovaries with PCOD	

Special investigation (01/08/2022)	
Serum Testosterone (ng/dl)	113 ng/dl
Serum Insulin (μIU/ML)	25 μIU/mL
Serum FSH (mIU/mL)	4.99 mIU/mL
Serum LH (mIU/mL)	6.46 mIU/mL

After treatment (as per table no 9 and 10)

USG Findings (23/11/2022)	
Uterus - anteverted normal size	
Left ovarian volume	9 cc
Right ovarian volume	10 cc
Normal size ovaries without cystic appearance	

Special investigation (28/11/2022)	
Serum Testosterone (ng/dl)	47 ng/dl
Serum Insulin (μIU/ML)	10.40 μIU/mL
Serum FSH (mIU/mL)	3.33 mIU/mL
Serum LH (mIU/mL)	3.39 mIU/MI

Before Treatment



After Treatment



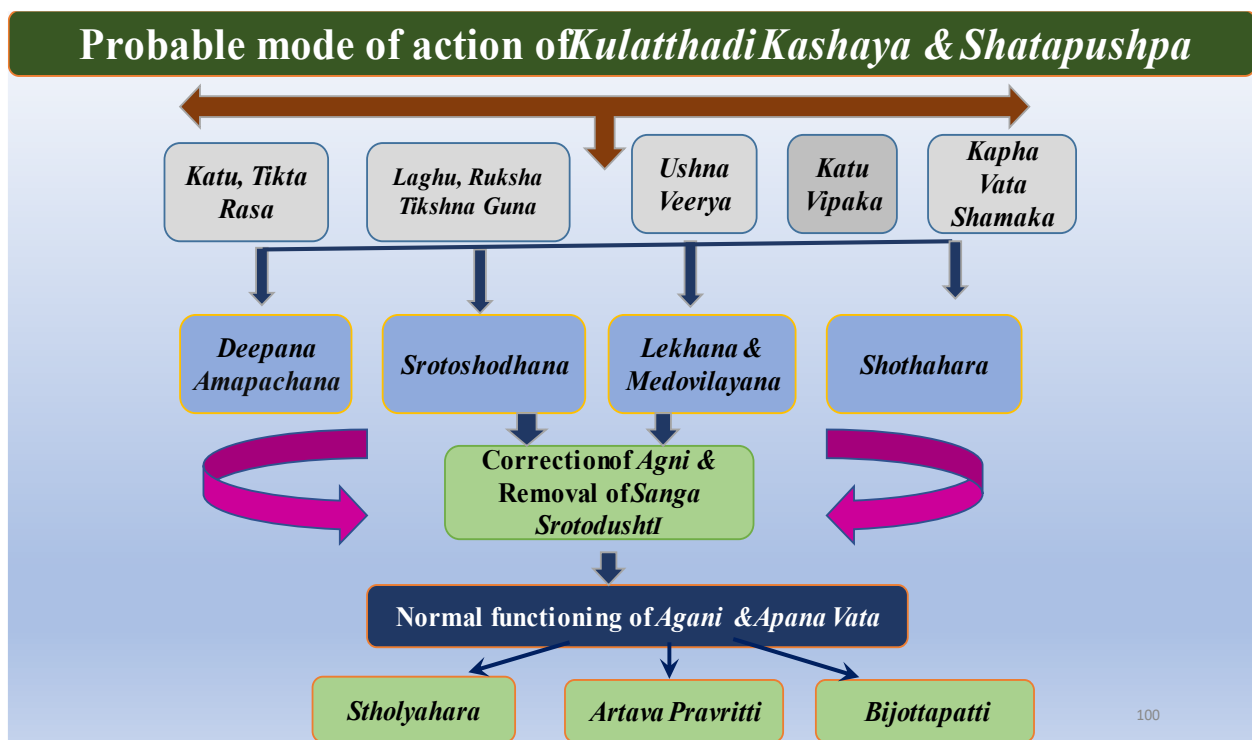
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DISCUSSION

Hirsutism is a frequent reason of cosmetic embarrassment, poor self-esteem, and psychological distress for women world over. Hence it is important to recognize that hirsutism can be an emotional burden that can harm one’s self-esteem and body image. All the metabolic manifestations of the disease may be due to the Dhatvagni Mandya existed at the level of Rasa, Rakta, Mamsa and Medo Dhatu. Shodhana and Shamana is an essential part of Ayurvedic management of PCOS. Due to the multifactorial etiology and

Dosha Dushya Sammurchhana at the cellular level, Shodhana is essential part of Ayurvedic management of PCOD. As in Bahudosha Avastha repeated Shodhana is required, so Nitya Virechana Karma helps in Vatanulomana and to remove Sthanika Kapha-Vata Dushti.

Ashtang Samgraha has clearly mentioned role of Virechana Karma in Granthi Chikitsa. Since it is a metabolic disorder, Nitya Virechana was planned for normalizing the functions of Pitta and Agni. Trivrutta Awaleha was selected for Nitya Virechana due to its Tridoshaja (especially Kaphahara) and Hridya properties. Thus, Shodhana helped to eliminate the vitiated Doshas and removed the Srotodushti existed at the level of Rasa, Rakta, Mamsa, Medas and Artavavaha Srotasa.



All the drugs of Kulatthadi Kashaya are predominant in Kashaya, Katu Rasa, Laghu Guna, Ushna Veerya and Madhura Vipaka, due to all these properties Kulatthadi Kashaya is Vata, Kapha Shamaka.²¹ Kulatthadi Kashaya has Medonashaka action due to Laghu, Ruksha, Tikshna & Ushna Guna which is very necessary for patient of PCOS as obesity is the main factor. Most of the drugs of Kulatthadi Kashaya has Sothahara properties which acts as anti-inflammatory action on body tissues & helps in reduction of cyst. Raktashodhana & Srotoshodhana properties of the component of trial drug leads to a reduction in acne. According to modern prospective – Kulattha contain 21% of protein. Kulatthadi Kashaya are anti-inflammatory, anti-oxidant property, effective in liver damage, diabetes, heart disease, improve digestive strength, relief dysmenorrhea, effective in irregular, delayed & scanty menses. Shatapushpa Choorna has Tikta Rasa, Ushna veerya & Agneya Guna & has Deepana-Pachana, Lekhana properties, which corrects Mandagni and works on Aavrana & decrease Picchila and Kleda properties of Kapha Dosha. Increases the blood circulation in the Yoni and Garbhashaya, which helps formation of healthy endometrium and thus menstrual cycle becomes normal in amount, duration and interval. Shatapushpa mainly contains Phytoestrogens which have mixed estrogenic and anti-estrogenic action, depending on target tissue. Shatapushpa by its phytoestrogenic properties brings down the levels of insulin

resistance in the body and restore the cellular imbalance that is a major cause of PCOS.²² Also, phytoestrogen affect the endogenous production of oestrogen help to regulate menstrual cycle. Shatapushpa Churna having an essential oil are rich in calcium, iron, magnesium. It manages serum lipid and insulin level. According to Acharya Kashyapa, Shatapushpa is Madhura Rasatmaka with Brimhana, Balya, Pushtikaraka, Varna Agni Vardhana, Ritupravartana, Dhanya, Yoni-Shukra Vishodhana properties. Also having Ushna Guna, Vataprashamana, Mangalya, Paapnashana Karma.²³

CONCLUSION

Beauty is the quality which gives pleasure to the senses or the state of being beautiful which increases the self-confidence of an individual. There are some hormonal metabolic disorders which effects on beauty and reduces the self-confidence, due to rejection in the society causes depression and anxiety. Hirsutism is one among them. Currently there is no cure for these cosmetical issues like hirsutism and acne. Now a days another procedure like plucking, waxing, shaving, threading, laser therapy, electrolysis is available which cause complications like skin lesions, minor burns, scaring, inflammation and regrowth.²⁴ Though this study involves a single case, it may helpful for practitioners to find new way of thinking of treatment options and tried to explore the probable mode of action of drugs for PCOS associated with hirsutism. Along with medications, proper exercise and a healthy diet was advised which is very essential in PCOS as it is a metabolic syndrome.²⁵

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Conflicts of interest

There are no conflicts of interest.

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