Role of Ayurveda in the Management of Infertility with PCOS and Diabetes Mellitus Type II

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Abstract

Polycystic ovarian syndrome is a systemic endocrine and metabolic disorder and is highly prevalent among reproductive aged women worldwide. Hyperinsulinemia and hyperandrogenemia are responsible for oligo/amenorrhea, hirsutism, obesity, and enlarged ovaries with multiple small cysts and a thick tunica, resulting in anovulation. Insulin resistance is recognized as a fundamental underlying pathology of PCOD and is found in 50–70% of patients. It is associated with increased risk of various metabolic disorders like type 2 Diabetes mellitus, hypertension, dyslipidemia, cardiovascular diseases. Conditions such as *Vandhya*, *Arajaska*, *Nashtartava*, *Artavakshaya*, and *Pushpaghni jathaharini* exhibit symptoms similar to PCOS, but *pushpaghni Jataharini* described by Acharya Kashyap has got much resemblance. This case study is a 28 year old female diagnosed as Infertility with PCOS with Type II Diabetes mellitus – *Pushpaghni Jataharini*, treated with *Ayurveda* principals, considering *Vata*, *Kapha*, *medas*, *srotoshodhana*, *Shamanoushadhis*, Diet, lifestyle modification, which helped in insulin rebalancing, obstruction clearing, helped to treat PCOS and helped the patient conceive.

Keywords: Polycystic ovarian syndrome (PCOS), Infertility, Diabetes mellitus type II, Pushpaghni Jataharini, Shamanoushadhi.

Introduction

Polycystic ovarian syndrome (PCOS), is a endocrine disorder in women of reproductive age and is characterized by irregular menstrual cycles, hyperandrogenism, and polycystic ovaries. 8-13% of reproductive-age women globally are affected with PCOS of which 70% remain undiagnosed [1]. Today's era has led to unhealthy lifestyles, poor nutrition, and mental stress, which contribute to both physical and mental health issues [2]. PCOS is associated with comorbidities such as obesity, insulin resistance, type 2 diabetes, cardiovascular diseases, and infertility [3, 4]. The most frequently observed symptoms of PCOD include menstrual irregularities and reproductive issues, often resulting in female infertility. In modern science, PCOS diagnosis is made on the modified Rotterdam criteria- if at least two of the following are present: clinical or biochemical hyperandrogenism, oligo-anovulation, or polycystic ovarian morphology on ultrasound, with other disorders excluded [5]. Insulin resistance, accompanied by compensatory hyperinsulinemia (elevated fasting blood insulin levels), is an important biochemical feature of PCOS. Hyperinsulinemia increases ovarian androgen production

(particularly testosterone and androstenedione) and decreases sex hormone-binding globulin (SHBG) concentrations. In the long term, around 20% of women with PCOS develop noninsulin-dependent diabetes mellitus (NIDDM). The Ayurvedic view of PCOS can be correlated with the blockage of Vata and Pitta by Kapha, which disrupts movement and inhibits the transformation process. Following dietary habits and activities that elevate Kapha leads to Kapha dominance in the body. Kapha being Sheeta, Manda, Sthira, Guru [6]. diminish the Jatharagni [7] and starts impacting the metabolic function of Dhatvagni [8] Kapha and Ama blocks Artavavaha Strotas (Artavaha Sroto Dushti). This stagnation of Apana Vayu in the Artavavaha Strotas obstructs the flow of Vata in the ovarian cycle, leading to menstrual disturbances like oligomenorrhea and amenorrhea in PCOD. Accumulation of excess Kledak Kapha and Ama in the body also results in Dhatvagni Mandya [9]. Which impacts the Meda Dhatvagni. This impaired metabolism of the fat tissue leads to a contradictory state of fat metabolism (Meda Viruddha), ultimately contributing to diabetes and obesity.

A 28-year-old female presented with irregular menses, nausea, decreased appetite, hyperacidity, and infertility at JEENA SIKHO Lifecare Limited Hospital, Jalandhar, Punjab,

She is a known case of PCOS and Type II Diabetes Mellitus, both under allopathic treatment.

She also has a history of pelvic inflammatory disease.

Her last menstrual period (LMP) was on 14/10/2024, with a history of irregular menstruation.

Family History: Both father and mother have Type II Diabetes Mellitus.

Addictions: No known addictions.

Allergies: No known food or drug allergies.

USG Whole Abdomen (Dated 07/10/2024): Revealed fatty liver, bilateral renal concretions, and a right ovarian cyst

measuring 28 mm × 20 mm.

Blood Sugar Level (Random, Dated 25/10/2024): 237 mg/dL.

Table 1: Examination

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Personal history				
Diet- Veg				
Appetite- decreased				
Bowel- Regular				
Micturition- 4-5 times/day				
Sleep-Normal				
Habits-nothing specific				
Menstrual History				
Irregular				
Clots- Absent				
Dysmenorrhea – Absent				
Foul smell- Absent				
General Examination				
Pulse Rate: 72/min				
Blood Pressure (BP): 120/80 mmHg				
Weight: 78 kg				
Height: 5'4"				
Respiratory Rate: 18/min				
Temperature: 98°F				
Ashta sthana pareeksha				
Nadi- Vatapittaja				
Mala- Niram				
Mutra- Pita Varna				
Jihwa- Saam				
Shabda- Spashta				
Sparsha- AnushnaSheeta				
Drik-Avikrita				
Akriti- Sthula				
Systemic examination				
CVS: S1 and S2 heard; no murmur				
NS: Conscious, oriented				
RS: Air entry bilaterally equal (AEBE)				
P/A: Soft, non-tender, no organomegaly				
Samprapti Ghataka				
Dosha- Kapha Pradhana Tridosha				
Dushya-Dhatu- Rasa, Rakta				
Upadhatu- Artava				
Srotas- Rasavaha, Artavavaha				
Srotodushti– Atipravritti, Sanga				
Ama- Jatharagni, Dhatvagni janya				
Udbhava Sthana- Amashaya				
Sanchara Sthana- Garbhashaya				
Vyakta Sthana- Garbhashaya, Beeja Granthi				

Investigations

USG Whole Abdomen (dated 07/10/2024): Revealed fatty liver, bilateral renal concretions, and a right ovarian cyst measuring 28 mm × 20 mm.

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Treatment

1. Shaman Chikitsa: Dated - 25/10/2024:

- i). Relivon powder ½ tsf HS. (*Nishikala* with *Koshna jala*)
- ii). Granthi har Vati 1BD (Adhobhakta with Koshna jala)
- iii). Yakrit shotha har Vati 1BD (Adhobhakta with Koshna jala)
- iv). SHE cap 1BD (Adhobhakta with Koshna jala)
- v). Ladies Tonic 10ml BD (Adhobhakta with Sama matra Koshna jala)
- vi). Prameha har powder ½ tsf BD (Adhobhakta with Koshna jala)
- vii). Alokik shakti 1BD (Adhobhakta with Koshna jala)
- viii). Cap Liv DS 1BD (Adhobhakta with Koshna jala)

2. Dietary Recommendations

The dietary guidelines provided by Jeena Sikho Lifecare Limited Hospital, Jalandhar, Punjab, India, include the following key recommendations:

Diet Advised Was: Incorporate a diet rich in fiber and antioxidants, fresh seasonal fruits and vegetables like leafy greens like spinach, dry fruits like black resins, almonds, walnuts, ginger, turmeric, whole grain, brown rice, oats, legumes, lentils, beans.

Foods to Avoid:

- Reduce intake of sweetened and processed packaged food,
- Avoid salty spicy fried junk food.
- Avoid the combination of foods which are incompatible like milk with food, curd with fish, milk with fruits etc.
- Eliminate wheat, refined products, coffee, and tea.
- Avoid eating after 8 PM to support better digestion and metabolic function.

Hydration

• Drink alkaline water 3-4 times daily, along with herbal tea, "living" water, and turmeric water.

• Almond milk, coconut water & coconut milk.

Millet Inclusion

- Incorporate five varieties of millets into your diet: Foxtail, Barnyard, Little, Kodo, and Browntop.
- Ensure that millets are cooked using only steel utensils to preserve their nutritional properties.

Meal Timing & Structure

- **Breakfast (9:00 10:00 AM):** Seasonal Fruits (equal to patient's weight × 10 in grams) and steamed sprouts.
- Lunch (12:30 2:00 PM): Steamed salad (equal to patient's weight × 5 in grams) and cooked millets.
- Evening Snacks (4:00 4:20 PM): Light, nutritious snacks.
- **Dinner (6:15 7:30 PM):** Same as lunch.

Special Practices

- Offer gratitude before meals to cultivate positive energy.
- Sit in *Vajrasana* after eating to improve digestion and circulation.

3. Lifestyle Recommendations

Sungazing: Spend 30 minutes in direct sunlight each morning to absorb vitamin D and boost overall health and vitality.

Yoga: Practice yoga daily from 6:00 to 7:00 AM, focusing on flexibility, strength, and mental clarity to improve hormonal balance and overall well-being.

Meditation: Incorporate meditation into your daily routine to reduce stress, promote mental clarity, and enhance emotional well-being.

Barefoot Walking: Walk briskly for 30 minutes daily, preferably barefoot on natural surfaces like grass, to improve circulation and foster a deeper connection with nature.

Sleep: Aim for 6-8 hours of restful sleep each night to support physical and mental recovery, ensuring the body's systems function optimally.

Consistent Daily Routine: Follow a balanced and structured daily routine that supports equilibrium between meals, physical activity, and rest, helping to promote long-term health and vitality.

Observations

Table 2: Investigations on Follow ups

07/10/2024	25/10/2024	19/12/2024	25/12/2024	26/12/2024	
USG Whole Abdomen – fatty liver with bilateral renal concentrations with Right Ovarian cyst measuring 28mm x 20mm in size.	BSL Random 237mg/dl.	BSL Random 187 mg/dl.	Renal Function test: WNL LFT's WNL, TFT's – WNL Electrolytes- Normal, CBC – WNL, Lipid profile – Sr. LDL Cholesterol 114.04mg/dl, Non HDL Cholesterol 141.30 mg/dl, HbA1c 6.50%, UPT- Positive, USG Obstetrics: Single viable foetus of mean gestation age 6 weeks 0 days.	BSL Random 160 mg/dl.	

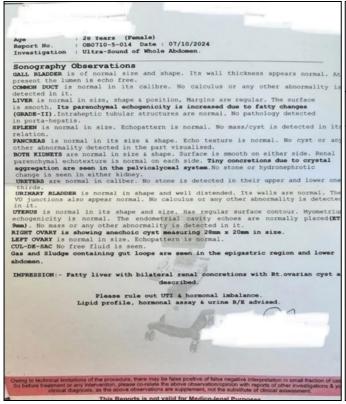


Fig 1: USG Whole Abdomen- Before treatment

Table 3: Examination on Follow-ups

	Blood Pressure	Weight
25/10/2024	120/80 mm of hg	78 kgs
19/12/2024	130/90 mm of hg	74.45 kgs
26/10/2024	120/80 mm of hg	75.20 kgs

Discussion

In present era, sedentary lifestyle and stress has lead to various diseases, health challenges like PCOS. According to *Ayurveda*, the pathogenesis of PCOS is *Agni* dysfunction, reduced *Jatharagni* function impacts *Dhatwagni*, ultimately leading to the onset of the condition.

PCOS arises from Kapha imbalance, resulting in Artavavaha Srotorodha and eventually leading to Vatavaigunya. Pitta represents the molecular functions involved in bodily transformations, including enzymatic activities, protein synthesis, and hormonal regulation crucial for digestion, assimilation, tissue formation, and overall metabolism. Vata, being the primary Dosha, regulates the functioning of other Doshas. When it is imbalanced, it disrupts the normal physiology of the reproductive system. Vitiated Kapha leads to indigestion, triggering the formation of Ama and causing blockages in the channels (Srotorodha). Additionally, Kapha aggravation contributes to the aggravation of Vata by obstructing its normal flow through the (Margavarodha).

The Shamanoushadhis used in this patient were Doshashamaka (Vata, Pitta and Kapha), Srotoshodhana, Agnivardhaka, Deepana, Pachana.

- i). Relivon Powder: Contains Swarna Patri, Misreya, Sendha Namak, Sonth, Jang Harar, Erand oil. It helps in indigestion, relieves constipation, removes undigested metabolic waste.
- ii). Granthi Har Vati: supports overall health and wellbeing. It contains key ingredients like *Guggulu* [10], *Kanchanar* [11], *Amalaki* which help improve digestion,

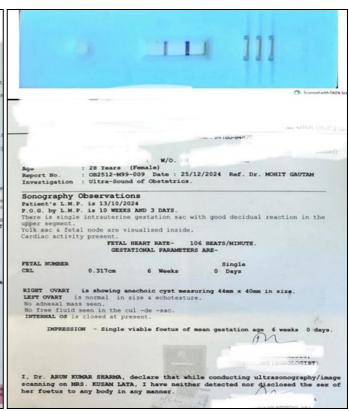


Fig 2: UPT – Positive and USG of Obstetrics- After treatment

possess anti-inflammatory properties, and support weight management. *Guggulu* is *Vataghna* due to *Ushna virya* and *Kaphagna* due to its *Tikta Kashay* rasa. It has properties such as *Kledashoshaka, Jantughna, Rasayana* and *Vrishya*. It acts on *Vikrut meda. Kanchanar* possesses *Kashaya rasa, Laghu* and *Ruksha guna*, and is therefore *Kaphaghna*.

- iii). Yakrit Shotha Har Vati: Contains Punarnava, Kalimirch, Pippali, Vidanga, Devadaru, Haridra, Chitrak, Haritaki, Amalaki, Danti, Chavya, Pippalimula, Kutaki, Nishoth, Shunthi, Ajwain, Mandoor Bhasma. Helps in liver dysfunction, diuretic, anemia, oedema.
- iv). SHE Cap: contains Ashwagandha, Ulatkambal, Ashok, Supari, Bhumi Amla, Lodhra, Shatapushpa, Ashwatha, Bala, Naagakesar, Jiwanti. It is indicated in hormonal dysfunction, infertility, menstrual disorders, PCOS, fibroids, anemia, blood purification.
- v). Ladies Tonic: contains key ingredients like Aloe Vera, Sonth, Kali Mirch. Aloe vera. It helps in hormonal balance regulating menstrual cycle, improving fertility, reduces stress.
- vi). Prameha Har Powder: contains Kutki, Chirata, Neem Karela, Rasonth, Imli Beej, Kala Namak, Giloy, Sonth, Babool Chaal, Sarpagandha, Trivang Bhasma, Yashad Bhasma, Revend Chinni, Shodhit Guggulu, Methi, Jamun, Babool Fruit, Karanj, Shilajit, Haldi, Harad, Vanshlochan, Baheda, Amla, Gudmar. Helpful in diabetes, urinary problems, high blood sugar, strengthen immunity, hyperglycemia, diabetic neuropathy, retinopathy
- vii). Alokik Shakti: contains Kesar, Loh Bhasma, Shudh Kuchla, Swarn Makshik Bhasma, Ashwagandha Ext., Mukta Shukti Bhasma, Shatawari Ext., Shankhpushpi, Pipal, Papita Sat, Tulsi, Pudina, Laung, Dalchini, Choti Elaichi, Tej Patta, Sonth, Badi Elaichi, Haldi, Ajwain. Helps in increasing immunity, medhya and dhatu kshay.

viii). Cap Liv DS: contains Bhumiamla Ext., Kasani Ext., Himsra, Punarnava Ext., Guduchi Ext., Kakamachi, Arjuna, Biranjasipha, Kasamarda Jhavuka, Vidanga, Chitraka, Kutki, Haritaki, Bhringraj. It is useful in liver disease and helps improve appetite.

Conclusion

- Polycystic Ovarian Syndrome (PCOS), a systemic endocrine and metabolic disorder highly prevalent among reproductive-aged women worldwide, has insulin resistance as a fundamental underlying pathology. Pushpaghni Jataharini, mentioned in Ayurvedic classics, presents with symptoms similar to those of PCOS. Ayurveda offers a holistic approach in managing this condition, focusing on the vitiated Doshas—Vata, Kapha, and Medas—and incorporating Srotoshodhana. The use of Shamanoushadhis, along with diet and lifestyle modifications, in this patient significantly enhanced fertility and helped in controlling elevated blood sugar levels.
- Before treatment, USG (Whole Abdomen) revealed fatty liver, bilateral renal concretions, and a right ovarian cyst measuring 28 mm × 20 mm.
 Following treatment, the urine pregnancy test (UPT) was positive. Subsequent obstetric ultrasonography confirmed a single viable fetus with a mean gestational age of 6 weeks and 0 days.
- These findings suggest that Ayurvedic management not only helped in correcting the underlying pathology but also successfully restored fertility. However, further clinical trials with larger sample sizes are necessary to establish the efficacy and reproducibility of this treatment approach.

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