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Successful Conception In Lean Polycystic Ovarian Syndrome With Ayurvedic Shamana Therapy: A Case Report

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ABSTRACT

Polycystic ovarian syndrome (PCOS) is a leading cause of anovulatory infertility among women of reproductive age. Lean PCOS represents a distinct phenotype that poses diagnostic and therapeutic challenges. This case report describes the successful Ayurvedic management of primary infertility associated with lean PCOS. A 28 year old nulligravida female presented with a four year history of infertility, irregular menstrual cycles of 45–60 days, and scanty menstrual flow. Ultrasonography revealed bilateral polycystic ovarian morphology with increased ovarian volume, and hormonal evaluation showed elevated luteinizing hormone and anti-Müllerian hormone levels. Based on the Rotterdam criteria, the diagnosis of lean PCOS was established. From an Ayurvedic perspective, the condition was correlated with Vandhyatva (infertility) associated with Artavakshaya (oligohypomenorrhea). The patient received Shamana Chikitsa comprising Shatapushpa Churna, Sukumara Kashaya, Drakshasava, and Avipattikara Churna for three months. Gradual normalization of menstrual cycles was observed, followed by spontaneous conception and successful delivery of a healthy infant. This case highlights the potential role of individualized Ayurvedic therapy in restoring reproductive function and improving fertility outcomes in lean PCOS.

Keywords: Ayurveda, Artavakshaya, Infertility, Karshya, PCOS.

INTRODUCTION

Infertility is a significant global health concern affecting millions of couples. Various factors contribute to infertility, including uterine polyps, fibroids, and endometriosis; among these, polycystic ovarian syndrome (PCOS) is one of the leading causes [1]. Female factors contribute to approximately 40% of infertility cases, with ovarian factors, particularly Polycystic Ovary Syndrome (PCOS), representing a significant proportion. Polycystic ovarian syndrome (PCOS) is an endocrine disorder affecting women during their reproductive years. It is associated with infertility, obesity, cardiovascular disorders, and insulin resistance. The condition may also be influenced by unhealthy lifestyle practices and is considered a multifactorial disorder characterized by inflammatory changes and dysregulated steroid metabolism[2]. PCOS is one of the leading causes of ovulatory infertility and the most common endocrine disorder among women of reproductive age, with a prevalence ranging from 8–13% depending on the population studied [3].

PCOS is a condition wherein multiple cysts develop in the ovaries, affecting normal ovarian functioning, follicle development, and ovulation. As per Rotterdam Criteria [4], Anovulation, hyperandrogenemia, and the presence of multiple ovarian cysts on ultrasonography are the diagnostic

features of PCOS. PCOS manifests as two phenotypes: obese/overweight and lean. Lean PCOS, though less common, presents unique therapeutic challenges with patients typically having BMI ≤25 kg/m [5]. The condition affects approximately 5-10% of women of reproductive age worldwide and is a leading cause of Anovulatory infertility [6].

In the Indian system of Medicine Ayurveda, the description of Artavakshaya [7] (oligohypomenorrhea) resembles the manifestations of Polycystic Ovarian Syndrome. When associated with infertility (Vandhyatva), a comprehensive treatment approach addressing both the menstrual pathologies and the metabolic aspects becomes essential.

We present a case of primary infertility with bilateral polycystic ovarian morphology in a lean patient, where the patient achieved spontaneous conception and successfully progressed through pregnancy with individualized comprehensive Ayurveda management. This case report highlights the role of Ayurveda Shamana therapy in the management of Artavakshaya with special reference to PCOS.

CASE REPORT

Patient Information

A 28 year old married female presented to the outpatient department with complaints of inability to conceive for the past four years. She reported delayed and irregular menstrual cycles associated with scanty menstrual flow. Her last menstrual period was on 13 July 2024 and the menstrual cycles occurred at intervals of 45 to 60 days. The cycles were associated with dysmenorrhea.

The patient was nulligravida. She had been diagnosed with polycystic ovarian disease five years earlier and had a history of irregular menstrual cycles for which she received hormonal therapy for two years including combined estrogen progesterone oral contraceptive pills. However, no sustained improvement was observed. There was no significant past medical or surgical history. The patient had no previous history suggestive of hyperprolactinemia, hyperandrogenism, or thyroid dysfunction. A detailed timeline of events is described in Table 1.

Table 1: Timeline of Events

Date	Observation / Events	Recommendation
14/07/2024	**C/O-** Inability to conceive for 4 years Irregular and delayed menstrual cycles with scanty menses M/H- Last Menstrual Period (LMP) : 13-07-2024, duration 6-7 days , interval of 45-60 days O/E Weight 42 kg and Height 157 cm BMI – 17 kg/m^2	Advised - USG (Pelvis) on 4th day of cycle - Hormonal evaluation including Sr. FSH, Sr. LH, Sr. AMH, Sr. Testosterone , Sr. Prolactin and Sr. TSH on 2nd day of cycle - Haematological test including CBC, RBS, and HbA1C. - Semen Analysis of partner within 3-5 days of abstinence
17/07/2024	USG S/O Bilateral polycystic ovarian morphology and deranged Hormonal profile	Diagnosis of primary infertility with Lean PCOS confirmed and Ayurveda Shamana Therapy initiated.
13/08/2024	Delayed Periods UPT done showed Negative Results	Same treatment continued ahead till onset of menses
27/08/2024	- Interval of cycle reduced to 40 days - Improvement in Appetite LMP : 23-08-2024, Duration 4-5 days, Interval 40 days Weight – 43 Kg	Same treatment continued from 5th day of cycle for next 30 days
5/10//2024	No fresh complaints LMP : 29-09-2024	Same treatment continued from 5th day of cycle for next 30 days

	M/H – Duration 4-5 days, Interval 36 days O/E – Weight- 44.6 Kg	
5/11/2024	LMP: 30- 10-2024 M/H – Duration 4 days, Interval 31 days O/E – Weight – 45 Kg	Same treatment continued from 5th day of cycle for next 30 days
5/12/2024	C/O- Delayed and Missed Periods Increased discharge per vagina LMP: 30- 10-2024 O/E – Weight – 46 Kg UPT done in OPD S/O Pregnancy	Initial Treatment discontinued Tab Folic Acid 5 mg Once in a day prescribed **Advised** - USG Obs – Viability Scan for confirmation of pregnancy at 6 weeks of gestation
16/12/2024	USG Obs (15/12/2024) revealed A Single Live Intrauterine gestational sac noted, regular margins, single live embryo seen CRL : 3.2 mm corresponding to gestational age of 6 weeks Fetal Pole – Present Cardiac Pulsation Noted	Routine Antenatal Care Treatment initiated. Patient advised Bed rest and follow Masanumasika Garbhini Paricharya (Monthly dietary/medicine regimen in pregnancy).
01/08/2025	Patient followed regularly through her pregnancy for ANC treatment in the Hospital and delivered a live healthy Female Child of weight 2.8 Kg through Elective Caesarean Delivery in view of Precious Pregnancy on 01/08/2025	

Clinical Examination

On general physical examination, the patient was moderately built and nourished with a body weight of 42 kg and height of 157 cm. Vital parameters were within normal limits. Systemic examination did not reveal any abnormal findings. Gynecological examination including per speculum and per vaginal examination was unremarkable and no structural abnormalities were detected.

Investigations

Ultrasonography of the abdomen and pelvis performed on 16 July 2024 revealed a uterus of normal size with a uterine volume within normal limits and an endometrial thickness of 7 mm. Both ovaries were enlarged with right ovarian volume measuring 12.7 cc and left ovarian volume measuring 13.2 cc. The ovaries showed multiple small peripheral follicles with increased central echogenic stroma, suggestive of polycystic ovarian morphology. The ultrasonographic impression was bilateral polycystic ovarian morphology.

Female hormonal evaluation was performed for further assessment. Serum follicle stimulating hormone (FSH) was within the normal range at <6.2 mIU/L. Luteinizing hormone (LH) levels were elevated at 11.5 IU/L. Anti-Müllerian hormone (AMH) was raised at 6.3 ng/mL compared to the reference range of 2 to 4 ng/mL. Serum prolactin level was 12 ng/mL, which was within the normal reference range of 2.8 to 20 ng/mL. Total testosterone measured on the second day of the menstrual cycle was within normal limits at <0.1 ng/mL. Thyroid function tests, random blood sugar, and HbA1c were also within normal limits.

The male partner was advised to undergo semen analysis and the semen parameters were found to be within normal limits according to World Health Organization criteria. The detailed semen analysis parameters are presented in Table 2.

Table 2: Semen Parameters of Male Partner

Semen Parameter	Findings on	Reference range according to WHO
Volume	3 ml	≥1.5 mL

Sperm count/ Ejaculation	34 millions/ ml	≥39 million/ml
pH of semen	7.4	≥7.2
Morphology of semen	70%	≥4% normal forms
Motility of sperm [PR+ NP]	48%	≥40%

Diagnostic Assessment

Based on detailed clinical evaluation, laboratory investigations, and Ultrasonography findings, the patient was diagnosed with primary infertility associated with lean polycystic ovarian syndrome according to the Rotterdam criteria for the diagnosis of PCOS. The presence of oligomenorrhea with irregular menstrual cycles, elevated anti-Müllerian hormone levels, and ultrasonography evidence of bilateral polycystic ovarian morphology supported the diagnosis.

From the Ayurvedic perspective, the clinical presentation was correlated with Vandhyatva (Infertility) associated with Artavakshaya (oligohypomenorrhea or diminished menstrual flow). According to Ayurvedic principles, Artavakshaya occurs due to vitiation of Vata and Pitta Dosha leading to impairment in the formation and proper functioning of Artava.

Further clinical assessment suggested predominance of Vata and Pitta vitiation resulting in Rasakshaya (depletion of Rasa dhatu or plasma tissue), which manifested as Karshya (lean body habitus), as evidenced by a body mass index of 17 kg/m². The depletion of Rasa Dhatu (primary nourishing tissue) is considered to affect the formation of Artava, regarded as the Upadhatu (secondary tissue derivative) of Rasa Dhatu. This pathological sequence ultimately resulted in Artavakshaya, contributing to menstrual irregularity and infertility in the present case.

Therapeutic Intervention

The treatment plan was designed based on Ayurvedic principles for the management of Artavakshaya (oligomenorrhea or diminished menstrual flow) along with therapeutic measures indicated for Karshya (Underweight). Classical management of Artavakshaya includes Shodhana (bio-purificatory therapy) and administration of Agneya Dravya (drugs with hot potency). Management of Karshya emphasizes Brimhana (nourishing therapy) including medicated milk preparations, Vrishya Dravya (fertility-promoting agents), and Basti (therapeutic medicated enema) with Snigdha Madhura Dravya (unctuous and nourishing drugs).

Considering the patient's Hina Bala (reduced physiological strength), Shamana Chikitsa (palliative therapy) was adopted and continued for three months. The regimen included Agneya Dravya, Rasayana Dravya (rejuvenative drugs), and Madhura, Snigdha Dravya to regulate menstrual cycles and improve fertility outcomes. The treatment protocol administered is presented in Table 3.

Table 3: Shamana Therapy:

Principal	Intervention	Dose with Adjuvant	Duration
Rasayana (Rejuvenative Drug)	Shatapushpa Churna	5 gm early morning Empty Stomach with milk	These set of medicines were continued for three cycles Starting from 5th day of menstrual cycle till onset of next cycle
Agneya Dravya	Sukumara Kashaya	15 ml twice a day before food with 45 ml warm water	
Deepana (Carminative) Pachana (Digestive)	Drakshasava	20 ml Twice in a day After Meal with equal amount of water	
Anulomana	Avipattikara Churna	5gm Once in a day After dinner HS	

Follow-up and Outcomes

The patient was advised regular follow-up every 15 days during the treatment period. After one month of therapy, the menstrual interval reduced to 40 days compared to the previous cycle length of 45 to 60 days. In the subsequent two cycles, the interval further regularized to 35 days. After the third month of treatment, the patient missed her expected menstrual cycle, with the last menstrual period recorded on 17/07/2025. Pregnancy was confirmed by a urine pregnancy test. Following confirmation, the patient

continued regular visits for antenatal care and delivered a live healthy Female Child of weight 2.8 Kg through Elective Caesarean Delivery in view of Precious Pregnancy on 01/08/2025. (Table 4)

Table 4: Outcome of therapy

Ultrasonography Before Treatment	**Ultrasonography After Treatment**
Ultrasonography of pelvis performed on 16/07/2024 revealed: • Uterus: Normal in size, measuring 7.6 x 3.2 x 4.6 cm • Endometrium: Central, measuring 7 mm • Right ovary: 3.2 x 2.2 x 3.0 cm (Volume 12.7 cc) with multiple tiny follicles and • central echogenic stroma • Left ovary: 3.6 x 2.9 x 2.5 cm (Volume 13.2 cc) with multiple tiny follicles and central echogenic stroma, showing a 16 mm follicle **Impression**: Bilateral polycystic ovarian morphology	Ultrasonography Obstetrics performed on 15/12/2024 revealed : • A Single Live Intrauterine gestational sac noted, regular margins, single live embryo seen • CRL : 3.2 mm corresponding to gestational age of 6 weeks • Fetal Pole – Present • Cardiac Pulsation Noted • Good Trophoblastic Reaction **Impression** : A Live single Intrauterine pregnancy of 6 weeks gestational age with cardiac activity noted

DISCUSSION

Polycystic ovarian syndrome affects fertility through multiple mechanisms including anovulation or oligo-ovulation, endocrine imbalance, and impaired endometrial receptivity [6]. The patient in the present case demonstrated clinical features consistent with the oligo-ovulatory phenotype of PCOS, characterized by delayed and irregular menstrual cycles with scanty menstrual flow. Such menstrual disturbances reflect underlying ovarian dysfunction and altered folliculogenesis, which are commonly observed in women with PCOS and contribute significantly to infertility.

Ultrasonography evaluation in this case revealed bilateral polycystic ovarian morphology with ovarian volumes of 12.7 cc in the right ovary and 13.2 cc in the left ovary, which fulfills the diagnostic criteria described in the Rotterdam consensus. According to these criteria, polycystic ovarian morphology is defined by an ovarian volume greater than 10 cc or the presence of multiple follicles measuring 2 to 9 mm in diameter. The presence of enlarged ovaries with multiple small peripheral follicles and increased stromal echogenicity in this patient supports the diagnosis of PCOS and explains the associated ovulatory dysfunction.

From the Ayurvedic perspective, the clinical presentation was interpreted as Vandhyatva (female infertility) associated with Artavakshaya (oligohypomenorrhea). The patient also exhibited a lean body habitus with a body mass index of 17 kg/m², which corresponds to Karshya (emaciation or undernutrition) described in classical Ayurvedic literature. According to Ayurvedic pathophysiology, vitiation of Vata and Pitta Dosha (functional bio-regulatory principles governing movement and metabolism) leads to Rasakshaya (depletion of nutritive plasma tissue), which subsequently affects the formation of Artava (female reproductive tissue or ovum), regarded as the Upadhatu (secondary tissue derivative) of Rasa Dhatu. This pathological sequence results in Artavakshaya, manifesting as irregular and scanty menstruation, thereby contributing to infertility.

The therapeutic regimen in this case aimed at correcting the underlying metabolic imbalance, improving reproductive tissue nourishment, and restoring normal menstrual function. Shatapushpa Churna [8] (Foeniculum vulgare) was used as a principal Rasayana (rejuvenative agent). Classical Ayurvedic texts, particularly Kasyapa Samhita, describe Shatapushpa as an important drug for gynecological disorders. It possesses Vataprasamana (Vata-pacifying) properties and promotes proper tissue metabolism and reproductive function. The drug is also described to exhibit Ritupravartana (menstrual or ovulation-inducing) and Yonivishodhana (uterine cleansing) actions, which may help in correcting Agnimandya (metabolic dysfunction) and Artavakshaya [9]. Through its Agneya (metabolism-stimulating) properties, Shatapushpa may facilitate proper Dhatu and Upadhatu formation and thereby correct ovulatory function in this case.

Sukumara Kashaya was administered as an important component of the therapeutic regimen. This formulation contains several herbs such as Punarnava, Yashtimadhu, Ashwagandha, Shatavari, Dashamula, Draksha, and Eranda, which are known for their beneficial effects on gynecological and reproductive disorders [10]. The formulation is described as Yonirogahara and exhibits Vrishya and Vajikara properties, indicating its potential role in improving reproductive capacity and fertility. The herbs present in this formulation possess anti-inflammatory, immunomodulatory, antioxidant, and adaptogenic activities, which may contribute to hormonal regulation and improvement in reproductive health [11]. Many of the ingredients also exhibit Dipana and Pachana properties (Appetizer and Digestive), which facilitate proper formation of Rasa Dhatu and subsequent formation of Artava.

Drakshasava [12] was administered to support metabolic and systemic functions. The formulation is described to possess Rakta Prasadana (blood-purifying), Pitta Shamana (Pitta-pacifying), and Balya (strength-promoting) properties. Pharmacologically, it is known to exhibit antioxidant, antimicrobial, and anti-inflammatory activities. Its actions such as Dipana, Pachana, Malavatanulomana (regulation of bowel movement and Vata), and Brimhana (nourishing effect) help improve overall metabolic status and reproductive health. This may have contributed in the appetite improvement and weight gain in this case.

Avipattikara Churna [13] was prescribed in a small dose as a Mridu Shodhana (Mild detoxification) and for regulation of gastrointestinal function. This formulation is commonly used in conditions of Pitta predominance and is known to strengthen Jatharagni (digestive metabolism) while alleviating vitiated Pitta and Kapha Dosha. It also promotes Vatanulomana (normalization of Vata movement) and acts as a mild daily purgative. By correcting metabolic disturbances and improving digestive function, the formulation helps restore normal physiological balance and addresses the root pathogenesis of Artavakshaya.

The combined action of these formulations likely contributed to normalization of menstrual cyclicity, improvement of metabolic and hormonal balance, and establishment of a favorable reproductive environment for conception. Following three months of therapy, the patient achieved spontaneous conception, indicating restoration of ovulatory function and improved reproductive potential.

A similar case reported by Bharathi and Patil in 2022 [14] described successful Ayurvedic management of primary infertility associated with lean PCOS, where conception occurred after four months of treatment that included Uttarabasti (intrauterine therapeutic instillation), Ksheerbasti (Enemas with medicated milk) along with Shamana therapy. In contrast, the present case achieved spontaneous conception without the use of intensive Panchakarma procedures, suggesting that carefully selected oral Ayurvedic formulations may be effective in selected cases of PCOS-related infertility.

The successful outcome observed in this case highlights the importance of individualized treatment strategies in the management of infertility. While assisted reproductive techniques remain valuable therapeutic options, conservative approaches including lifestyle modifications and traditional medical systems such as Ayurveda may offer effective alternatives for selected patients, particularly those seeking non-invasive and holistic treatment modalities.

CONCLUSION

The present case demonstrates the potential role of individualized Ayurvedic management in the treatment of infertility associated with lean polycystic ovarian syndrome. The therapeutic approach aimed at correcting the underlying pathophysiological factors corresponding to Artavakshaya and Karshya through the use of Shamana Chikitsa (palliative therapy) comprising Agneya, Rasayana, and nourishing formulations. This intervention was associated with improvement in menstrual cyclicity followed by spontaneous conception within three months of treatment.

The outcome observed in this case suggests that appropriately selected Ayurvedic formulations may help restore menstrual regularity, improve reproductive tissue function, and support fertility in selected patients with PCOS-related infertility, particularly in lean phenotypes. Although findings from a single case cannot be generalized, this report highlights the potential of Ayurvedic therapeutic strategies as a complementary and non-invasive approach in fertility management. Further systematic clinical studies with larger sample sizes are required to validate these observations and to elucidate the underlying mechanisms.

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