



Original Research Article

Volume 15 Issue 06

June 2026

AYURVEDIC MANAGEMENT OF PMOS (POLYENDOCRINE METABOLIC OVARIAN SYNDROME): A SINGLE CASE STUDY

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ABSTRACT

Background *Polyendocrine Metabolic Ovarian Syndrome* (PMOS), previously known as Polycystic Ovarian Syndrome, is a common endocrine and metabolic disorder in women of reproductive age. It presents with menstrual irregularity, amenorrhea, hirsutism, weight gain, acne, disturbed sleep and psychological stress. In *Ayurveda*, PMOS can be correlated with *Artava Kshaya*, *Anartava*, *Artava Dushti* and *Pushpaghni Yonivyapad*. The main pathology involves *Kapha Pradhana Tridosha Dushti*, *Agnimandya*, *Ama Utpatti*, *Meda Dhatu Vriddhi* and obstruction of *Artavavaha Srotas*. **Material and Method** A 26-year-old unmarried female presented with amenorrhea for 6 months, irregular menstruation for 1 year, hirsutism for 6 months, mood swings for 2 months, disturbed sleep for 4 to 5 months and weight gain for 6 months. Detailed history, clinical examination, laboratory investigations and USG abdomen-pelvis were assessed. The patient was treated with *Nidana Parivarjana*, diet and lifestyle correction, *Navayasa Loha*, *Arogyavardhini Vati*, *Latakaranja Vati*, *Medohara Vati*,

Triphala Churna, Ashokarishta, Nasya with Anu Taila and Shirodhara with Takra Dhara for 3 months. **Observation and Result** Before treatment, the patient had irregular menstruation with approximately 50-day cycle interval, amenorrhea history of 6 months, pain grade +++, weight 62 kg and BMI 27.2 kg/m². After 3 months of treatment, menstrual cycle became regular with 30-day interval, pain reduced to +, weight reduced to 60 kg and BMI reduced to 26.3 kg/m². USG findings showed reduction in right ovary volume from 16.0 cc to 7.5 cc and left ovary volume from 10.0 cc to 8.0 cc. Endometrial thickness reduced from 5.2 mm to 3.7 mm. Before treatment, bilateral polycystic ovarian changes were noted, while after treatment no significant abnormality was detected. **Discussion** The improvement may be due to correction of *Agni*, reduction of *Ama*, removal of *Srotorodha*, *Kapha-Meda Shamana* and regulation of *Artava*. Stress-relieving therapies like *Nasya Karma* and *Takra Dhara* helped in improving sleep, reducing stress and supporting neuroendocrine balance. **Conclusion** This single case study suggests that individualized *Ayurvedic* management may be useful in PMOS. After 3 months of treatment, menstrual cycle improved from irregular 50-day interval to regular 30-day interval, pain reduced from +++ to +, weight reduced by 2 kg, BMI reduced by 0.9 kg/m² and USG findings showed marked improvement.

Keywords: PMOS, *Artava Kshaya*, *Pushpaghni Yonivyapad*, *Meda Dushti*, *Nasya Karma*

INTRODUCTION

Polycystic Ovarian Syndrome is one of the most common endocrine disorders among women of reproductive age. It is now better understood as a multisystem endocrine-metabolic condition rather than only an ovarian disorder. The condition is commonly associated with irregular menstruation, amenorrhea, anovulation, hirsutism, acne, weight gain, insulin resistance, mood changes and sleep disturbance. Due to its wide clinical presentation, it affects reproductive health, metabolic health and psychological wellbeing.¹

In the present era, young working females commonly face stress, irregular food habits, sedentary routine, late night sleep and lack of physical activity. Intake of refined food, packaged food, canned beverages and irregular meal timing further disturbs digestion and metabolism. These factors gradually lead to weight gain, hormonal imbalance, menstrual irregularity and reduced quality of life. Therefore, management of PMOS should include not only medicine but also diet correction, lifestyle correction and stress management.²

In *Ayurveda*, there is no single direct disease term like PMOS, but its clinical features can be understood under *Artava Kshaya*, *Anartava*, *Artava Dushti* and *Pushpaghni Yonivyapad*. *Artava Kshaya* is characterized by delayed, scanty or absent menstruation. *Pushpaghni Yonivyapad* presents with menstrual disturbance along with features like obesity and abnormal hair growth. In this condition, *Kapha Dosha*, *Vata Dosha*, *Rasa Dhatu*, *Rakta Dhatu*, *Meda Dhatu* and *Artava Dhatu* are mainly involved. Due to *Agnimandya*, *Ama* formation occurs, which causes obstruction in *Rasavaha*, *Raktavaha*, *Medovaha* and *Artavavaha Srotas*. This leads to disturbed ovulation and irregular menstrual flow.³

MATERIAL AND METHOD

Study Type -Single case study.

Case Selection -A 26-year-old unmarried female patient was selected with clinical features suggestive of PMOS.

Chief Complaints- Amenorrhea for 6 months, irregular menstruation for 1 year, hirsutism for 6 months, mood swings for 2 months, disturbed sleep for 4 to 5 months and weight gain for 6 months.

Clinical Assessment -Detailed history, menstrual history, personal history, family history, dietary habits, sleep pattern and lifestyle factors were recorded.

Examination- General examination, vital examination and systemic examination were done before and after treatment.

Investigations- Hb, random blood sugar, fasting blood sugar, thyroid profile and USG abdomen-pelvis were assessed.

Treatment Given- Treatment included *Nidana Parivarjana*, *Shamana Chikitsa*, *Nasya Karma*, *Shirodhara*, diet correction, exercise, *Yoga* and counseling.

Duration of Study-Total treatment duration was 3 months.

Follow-Up - Follow-up was done at regular intervals during the treatment period.

Assessment Parameters- Menstrual cycle, pain, weight, BMI, sleep, mood swings, stress, hirsutism, general wellbeing and USG findings were assessed before and after treatment.

DRUG REVIEW TABLE

S. No.	Dravya Formulation	Rasa	Guna	Vipaka	Virya	Doshaghna ta	Karma
1	<i>Navayasa Loha</i>	<i>Tikta, Kashaya</i>	<i>Laghu, Ruksha</i>	<i>Katu</i>	<i>Ushna</i>	<i>Kapha-Vata Shamaka</i>	<i>Raktavardhak a, Deepana, Pachana</i>
2	<i>Arogyavard hini Vati</i>	<i>Tikta, Katu, Kashaya</i>	<i>Laghu, Ruksha</i>	<i>Katu</i>	<i>Ushna</i>	<i>Kapha-Pitta Shamaka</i>	<i>Agnideepana, Ama Pachana, Rasayana</i>
3	<i>Latakaranja Vati</i>	<i>Tikta, Katu</i>	<i>Laghu, Ruksha</i>	<i>Katu</i>	<i>Ushna</i>	<i>Kapha-Vata Shamaka</i>	<i>Artava Janana, Medohara, metabolic support</i>
4	<i>Medohara Vati</i>	<i>Tikta, Katu, Kashaya</i>	<i>Laghu, Ruksha</i>	<i>Katu</i>	<i>Ushna</i>	<i>Kapha-Meda Shamaka</i>	<i>Lekhana, Medohara, Srotoshodhan a</i>
5	<i>Triphala Churna</i>	<i>Mainly Kashaya</i>	<i>Laghu, Ruksha</i>	<i>Madhur a</i>	<i>Mild Ushna action</i>	<i>Tridosha Shamaka</i>	<i>Rechana, Rasayana, Ama Pachana</i>
6	<i>Ashokarishta</i>	<i>Kashaya , Tikta</i>	<i>Laghu, Ruksha</i>	<i>Katu</i>	<i>Sheeta</i>	<i>Pitta-Kapha Shamaka</i>	<i>Garbhashaya Balya, menstrual regulator</i>
7	<i>Anu Taila</i>	<i>Madhur a, Tikta, Kashaya</i>	<i>Snigdha, Sukshma</i>	<i>Madhura</i>	<i>Ushna</i>	<i>Vata-Kapha Shamaka</i>	<i>Nasya Yogya, Shirogata Dosha Shamana</i>
8	<i>Takra Dhara</i>	<i>Amla, Kashaya</i>	<i>Laghu, Ruksha</i>	<i>Katu</i>	<i>Ushna</i>	<i>Kapha-Vata Shamaka</i>	<i>Stress relieving and sleep promoting</i>

ASSESSMENT CRITERIA

The patient was assessed before and after treatment on the basis of subjective and objective parameters. Menstrual pattern, pain, sleep, mood swings, stress and hirsutism were assessed clinically. Weight, BMI and USG findings were considered objective parameters.

Table 1: Assessment Criteria

S. No.	Parameter	Assessment Method	Before Treatment	After Treatment	Interpretation
1	Menstrual cycle	Cycle interval in days	Irregular, around 50 days / amenorrhea history	Regular, 30 days	Improved
2	Amenorrhea	History of absence of menses	Present for 6 months	Absent	Improved
3	Pain during menses	Clinical grading	+++	+	Marked reduction
4	Menstrual flow	Pads per day and duration	1 to 2 pads/day, irregular 2 to 5 days	Regular flow with normal duration	Improved
5	Body weight	Weight in kg	62 kg	60 kg	2 kg reduction
6	BMI	kg/m ²	27.2 kg/m ²	26.3 kg/m ²	0.9 kg/m ² reduction
7	Sleep	Patient-reported sleep pattern	Irregular and disturbed	Regular and calm	Improved
8	Mood swings	Patient-reported symptom	Present	Reduced	Improved
9	Hirsutism	Clinical observation	Hair growth on chin and chest	Progression reduced	Mild improvement
10	Stress	Patient-reported and clinical observation	Present	Reduced	Improved
11	General wellbeing	Clinical assessment	Disturbed	Better	Improved
12	USG finding	Ovarian morphology	Bilateral polycystic ovarian changes	No significant abnormality	Marked improvement

Table 2: Grading Pattern Used for Subjective Symptoms

Grade	Meaning
0	Absent
+	Mild
++	Moderate
+++	Severe

CASE REPORT

A 26-year-old unmarried female presented with amenorrhea since 6 months, irregular menses since 1 year, excessive hair growth on chin and chest since 6 months, mood swings since 2 months, disturbed sleep since 4 to 5 months and weight gain of approximately 5 to 10 kg within 6 months. Her menstrual history showed menarche at 14 years, irregular flow for 2 to 5 days, use of 1 to 2 pads per day, cycle interval of 2 to 3 months and severe pain during menstruation. Her dietary habit included both vegetarian and non-vegetarian food with frequent outside food intake. Her weight was 62 kg, height was 151 cm and BMI was 27.2 kg/m². Hb was 10.1 g/dl, random blood sugar was 132.91 mg/dl and fasting blood sugar was 101.75 mg/dl. Thyroid profile was within normal limits.

MENSTRUAL HISTORY

Parameter	Finding
Menarche	14 years
Duration of flow	Irregular, 2 to 5 days
Pads used	1 to 2 pads per day
Menstrual interval	2 to 3 months
Pain	+++
Marital status	Unmarried

PAST HISTORY

History	Finding
Past medical history	No relevant past medical history
Surgical history	No relevant surgical history
Gynecological history	Irregular menstruation present
Psychiatric history	No diagnosed psychiatric illness
Allergy history	No known drug allergy reported

FAMILY HISTORY

Family Member	History
Father	Type 2 diabetes mellitus and hypertension
Mother	No significant illness reported
Siblings	No significant illness reported

PERSONAL HISTORY

Parameter	Finding
Diet	Vegetarian and non-vegetarian, frequent outside food
Appetite	Irregular
Sleep	Irregular and disturbed
Bowel habit	Not significantly altered
Micturition	Normal
Exercise	No regular exercise
Addiction	No significant addiction
Occupation	Private company employee
Stress	Present due to family responsibility and work pressure

VITAL EXAMINATION BEFORE AND AFTER TREATMENT

Vital Parameter	Before Treatment	Date	After Treatment	Date
Pulse	90/min	Day 0	82/min	After 3 months
Blood Pressure	110/60 mmHg	Day 0	112/70 mmHg	After 3 months
SpO ₂	99%	Day 0	99%	After 3 months
Respiratory Rate	24/min	Day 0	20/min	After 3 months
Weight	62 kg	Day 0	60 kg	After 3 months
Height	151 cm	Day 0	151 cm	After 3 months
BMI	27.2 kg/m ²	Day 0	26.3 kg/m ²	After 3 months

SYSTEMIC EXAMINATION BEFORE AND AFTER TREATMENT

System	Before Treatment	Date	After Treatment	Date
Respiratory System	AEBE clear	Day 0	AEBE clear	After 3 months
Cardiovascular System	S1 S2 normal	Day 0	S1 S2 normal	After 3 months
Central Nervous System	Conscious and oriented	Day 0	Conscious, oriented and calm	After 3 months
Per Abdomen	Soft and non-tender	Day 0	Soft and non-tender	After 3 months
Sleep	Irregular and disturbed	Day 0	Regular and calm	After 3 months
Mental status	Stress and mood swings present	Day 0	Stress and mood swings reduced	After 3 months

INVESTIGATIONS

Investigation	Value	Interpretation
Hb	10.1 g/dl	Low
Random Blood Sugar	132.91 mg/dl	Mildly raised / watchful
Fasting Blood Sugar	101.75 mg/dl	Borderline
Thyroid Profile	Within normal limit	Normal

USG REPORT

USG abdomen and pelvis was done for objective assessment of ovarian morphology and endometrial thickness before and after treatment.

Table 3: USG Findings Before and After Treatment

S. No.	USG Parameter	Before Treatment	After Treatment	Interpretation
1	Right ovary volume	16.0 cc	7.5 cc	Reduced
2	Right ovary size	3.4 × 1.7 cm	2.5 × 1.6 cm	Improved
3	Left ovary volume	10.0 cc	8.0 cc	Reduced
4	Left ovary size	3.5 × 1.9 cm	2.0 × 1.5 cm	Improved
5	Endometrial thickness	5.2 mm	3.7 mm	Reduced
6	Ovarian morphology	Bulky ovaries with polycystic changes in both ovaries	No significant abnormality	Marked improvement
7	Final USG impression	Bilateral polycystic ovarian changes	No significant abnormality detected	Improved

PLAN OF TREATMENT

S. No.	Treatment	Dose / Procedure	Duration	Date / Schedule	Purpose
1	Counseling	Individual counseling	First 3 sittings	Initial phase	Stress reduction
2	<i>Nidana Parivarjana</i>	Avoid maida, white rice, packaged food, canned juice, added sugar	Throughout treatment	From Day 0	Removal of causative factors
3	Sleep correction	Avoid late night sleep	Throughout treatment	From Day 0	Hormonal and mental balance
4	<i>Navayasa Loha</i>	1 tablet BD after food	1 month	Day 0 to Day 30	Hb improvement

5	<i>Arogyavardhini Vati</i>	1 tablet once daily	1 month	Day 0 to Day 30	Metabolic correction
6	<i>Latakaranja Vati</i>	1 tablet BD	3 months	Day 0 to Day 90	Menstrual regulation
7	<i>Medohara Vati</i>	1 tablet BD	3 months	Day 0 to Day 90	Weight management
8	<i>Triphala Churna</i>	1 teaspoon at night with lukewarm water	Initially 3 days, then as required	Day 0 onward	<i>Ama Pachana</i>
9	<i>Ashokarishta</i>	1 teaspoon BD after food with equal water	3 months	Day 0 to Day 90	Uterine tonic
10	<i>Nasya with Anu Taila</i>	After local <i>Snehana</i> and <i>Swedana</i>	7 sittings	Every 3rd day	Stress and sleep support
11	<i>Shirodhara with Takra Dhara</i>	Procedure-based	3 sittings	Every 7th day	Stress reduction
12	Exercise	Walking / light exercise	Daily	From Day 0	Improve insulin sensitivity
13	Yoga	<i>Dhanurasana, Bhujangasana, Kapalabhati Pranayama</i>	Regular	From Day 0	Weight and stress management
14	Diet advice	Leafy vegetables, fruits, salad, <i>Ragi, Jowar, Bajra</i> , brown rice	Daily	From Day 0	Metabolic correction

PLAN OF FOLLOW-UP

Follow-Up	Time Point	Assessment Done	Findings
Follow-up 1	After 15 days	Sleep, stress, appetite, medicine tolerance	Sleep mildly improved
Follow-up 2	After 1 month	Weight, pain, menstrual symptoms	Pain reduced, compliance improved
Follow-up 3	After 2 months	Menstrual interval, mood, sleep	Menstrual cycle started improving
Follow-up 4	After 3 months	Final assessment with clinical and USG findings	Cycle regularized, weight and BMI reduced, USG improved

OBSERVATION AND RESULT

- After 3 months of *Ayurvedic* treatment, menstrual cycle improved from irregular 50-day interval to regular 30-day interval.
- Amenorrhea, which was present for 6 months before treatment, was relieved after treatment.
- Pain during menstruation reduced from +++ grade to + grade.
- Menstrual flow became more regular and improved after treatment.
- Body weight reduced from 62 kg to 60 kg, showing 2 kg weight reduction.
- BMI reduced from 27.2 kg/m² to 26.3 kg/m², showing 0.9 kg/m² reduction.
- Sleep pattern improved from irregular and disturbed sleep to regular and calm sleep.
- Mood swings and stress were reduced after counseling, *Nasya Karma* and *Takra Dhara*.
- Hirsutism showed mild improvement, and further progression of hair growth over chin and chest was reduced.
- General wellbeing of the patient improved after completion of treatment.
- USG findings showed right ovary volume reduced from 16.0 cc to 7.5 cc, showing 8.5 cc reduction.
- Left ovary volume reduced from 10.0 cc to 8.0 cc, showing 2.0 cc reduction.
- Endometrial thickness reduced from 5.2 mm to 3.7 mm, showing 1.5 mm reduction.
- Before treatment, USG showed bulky ovaries with bilateral polycystic ovarian changes.
- After treatment, USG showed no significant abnormality.
- Overall, clinical symptoms and USG findings showed marked improvement after 3 months of treatment.

RESULT DATA

S. No.	Parameter	Before Treatment	After Treatment	Result
1	Menstrual cycle	Irregular, around 50 days	Regular, 30 days	Improved
2	Amenorrhea	Present for 6 months	Absent	Relieved
3	Pain	+++	+	Reduced
4	Weight	62 kg	60 kg	Reduced by 2 kg
5	BMI	27.2 kg/m ²	26.3 kg/m ²	Reduced by 0.9 kg/m ²
6	Sleep	Irregular and disturbed	Regular and calm	Improved
7	Mood swings	Present	Reduced	Improved
8	Stress	Present	Reduced	Improved
9	Right ovary volume	16.0 cc	7.5 cc	Reduced by 8.5 cc
10	Left ovary volume	10.0 cc	8.0 cc	Reduced by 2.0 cc
11	Endometrial thickness	5.2 mm	3.7 mm	Reduced by 1.5 mm
12	USG impression	Bilateral polycystic ovarian changes	No significant abnormality	Marked improvement

DISCUSSION

PMOS is a metabolic and endocrine disorder commonly associated with menstrual irregularity, obesity, hirsutism, anovulation and psychological stress. In the present case, the patient had amenorrhea, irregular cycle, excessive hair growth, weight gain, disturbed sleep and mood swings.⁴ Her lifestyle factors such as sedentary routine, late night sleep, outside food and stress played an important role in disease development. These factors can be understood as *Kapha Prakopaka Nidana* and *Agnimandya Kara Nidana*.⁵

From the *Ayurvedic* point of view, the pathology involved *Kapha Pradhana Tridosha Dushti*, *Ama*, *Meda Dhatu Vridhhi* and obstruction of *Artavavaha Srotas*. Due to this obstruction, normal formation and flow of *Artava* was affected. *Vata Dosha*, especially *Apana Vata*, became disturbed, leading to irregular or absent menstruation. Therefore, the treatment was planned to correct *Agni*, reduce *Ama*, clear *Srotas*, reduce *Meda* and regulate *Artava*.⁶

The medicines used in this case had specific roles. *Navayasa Loha* helped in improving *Rakta Dhatu* and Hb level. *Arogyavardhini Vati* supported metabolism and *Agni Deepana*. *Latakaranja Vati* was used for menstrual regulation and metabolic support. *Medohara Vati* helped in weight management and *Meda Shamana*. *Triphala Churna* helped in *Ama Pachana* and *Koshtha Shuddhi*.⁷ *Ashokarishta* acted as a uterine tonic. *Nasya* with *Anu Taila* and *Takra Dhara* were useful for stress reduction, mental relaxation and sleep improvement. After 3 months, menstrual cycle became regular, pain reduced, weight decreased and sleep improved. USG also showed objective improvement, where right ovary volume reduced from 16.0 cc to 7.5 cc, left ovary volume reduced from 10.0 cc to 8.0 cc and bilateral polycystic ovarian changes were not seen after treatment.⁸

CONCLUSION

The present single case study shows that PMOS can be managed with an individualized *Ayurvedic* treatment plan including *Nidana Parivarjana*, *Shamana Chikitsa*, *Nasya Karma*, *Takra Dhara*, diet correction, exercise and counseling. In this case, menstrual cycle improved from irregular 50-day interval to regular 30-day interval, pain reduced from +++ to +, weight reduced from 62 kg to 60 kg and BMI reduced from 27.2 kg/m² to 26.3 kg/m² after 3 months of treatment. USG findings also improved, as right ovary volume reduced from 16.0 cc to 7.5 cc and left ovary volume reduced from 10.0 cc to 8.0 cc. Before treatment, bilateral polycystic

ovarian changes were present, while after treatment no significant abnormality was detected. Hence, correction of *Agni*, removal of *Ama*, reduction of *Kapha-Meda Dushti*, regulation of *Artava* and stress management may be useful in the management of PMOS.

DECLARATION OF PATIENT CONSENT

The patient's identity has been kept confidential. No personal details such as name, address, clinic name or place have been disclosed. Consent was obtained for using clinical information for academic and publication purposes.

CONFLICTS OF INTEREST Nil.

SOURCE OF SUPPORT - None.

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