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# **Case Study**

# AYURVEDIC MANAGEMENT OF POLYCYSTIC OVARIAN SYNDROME BY *PALASADI BASTI* AND *PATHADI CHOORNA*: A CASE REPORT

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#### **ABSTRACT**

Polycystic Ovarian Syndrome is the most common disease in the female population among adolescence and reproductive age group mainly due to the adoption of westernized culture. Polycystic Ovarian Syndrome (PCOS) is a physiological disorder that causes many negative effects involving a variety of systems in the body, such as the endocrine, metabolic, psychological, and reproductive systems. The complex symptomatology of PCOS makes very difficult to treat as a whole. In Ayurveda also no disease can be compared directly with PCOS. Some of clinical symptoms of PCOS may simulate *Granthibhoota Artava dushti* and if not treated early lead to the full manifestations and complications of PCOS. A 26 year old female came to OPD of Streeroga of IPGT & RA, having the complaints of irregular cycle, weight gain and failure to conceive since 2 years of active married life with a previous history of abortion. Sonography revealed bulky ovaries with multiple small follicles. Based on clinical findings along with sonological evidences Polycystic Ovarian Syndrome was diagnosed and a treatment protocol was selected for managing the PCOS and finally to achieve conception. *Palasadi basti* was selected followed by *Pathadi choorna* orally with warm water as internal medicine. The treatment was done for 3 months and during follow up the cycles became regular and finally the patient got conceived within 2 months.

**KEYWORDS:** Polycystic Ovarian Syndrome, Sub fertility, *Artava dushti, Basti.* 

#### INTRODUCTION

Polycystic ovarian syndrome and Obesity are the most common metabolic disorders that are associated with sub-fertility. PCOS patients are presented with a variety of symptoms like menstrual abnormalities, increasing obesity, infertility, acne, acanthosis nigricans and hirsutism. Women with PCOS patients are sub fertile, and this may be exaggerated by obesity, metabolic, inflammatory and endocrine abnormalities on ovulatory function, oocyte quality, and endometrial receptivity<sup>1</sup>. Women with PCOS have a 30-50% of risk of miscarriage, which is 3 times higher than normal women.[2] Even though Ovulation can be restored by medication, anovulatory patients have decreased cumulative pregnancy rates when compared with other sub fertile patients[3] and exhibit a higher rate of implantation failure and spontaneous miscarriage.[4] The long term complications of PCOS include diabetes, hypertension, abdominal obesity, risk of cardiovascular diseases, endometrial hyperplasia and carcinoma. In this modernized world the prevalence of PCOS is increasing due to faulty dietary habits and lifestyle. Moreover a stressful life of partners in today's era increases the infertility rate among couples. As it is a multifactorial disease with complex

involvement of more than two systems in the body, early diagnosis and management of PCOS is a necessity to prevent further complications.

PCOS cannot be directly correlated with any gynaecological disorders mentioned in Ayurveda. The Artava term is also used to represent ovum and hence among the 8 Artavadushtis which leads to Abeejata (anovulation), Granthibhoota Artavadushti[5] have the features like Granthila artava can be correlated with the termination of follicle maturation and became cystic in nature. This prevents proper growth of follicle to release a mature ovum as in polycystic ovary. On comparing the Artava as raja i.e., menstruation, clinical features of both Vata and kaphadushta Artava can be seen in Granthibhoota Artava like Oligomenorrhoea (chirat nishichvate) if *vata* predominance is there and *kapha* predominance seen as amenorrhoea followed by heavy bleeding with endometrial hyperplasia (Majjosamsrushtam, Prabhootam Vibandham) along with Abeejata[6] (Anovulation). Ayurveda explained mainly four etiological factors like unhealthy (Mithyachara), menstrual disorders/ovarian factors (Artava dushti), genetic defects (Beeja dosha) and certain unknown factors (Daivata) are responsible for the development of female genital disorders (Yonirogas)[7] and it is seems that all these etiologies contribute to the development of PCOS as a whole. Mithyachara along with existing Artavadushti, plays an important role in the pathogenesis of PCOS which further leads to the various Yonivyapads like Jataghni(recurrent abortion)8, Vamini (luteal phase defect)[9], Na garbham gruhnati (infertility).[10] As the ultimate effect of Artava dushti being Abeejatva (anovulation) and various Yonirogas, diagnosis and treatment of *Artava dushti* is of most important as it hinders the main function of female genital tract along with further complications like Asrigdara, Arsa, Gulma and Vatapradhana daruna disorders.[11] As per Susruta, Vyana and Apana prokopa is seen in Artavadosha "sukradoshapramehastu vvanapana prakopaja.[12] Vata also plays an important role in the regulation of HPO axis. Ayurvedic management of PCOS helps to regularise the cycle, promotes ovulation, improves oocyte quality and endometrial receptivity and helps to achieve pregnancy with low risk of miscarriage.

### Case report

Patient history with presenting complaints: A 26 year old female came to OPD of Prasuti-Streeroga of IPGT & RA, on 21/4/17 having the complaints of irregular cycle, sudden increase in weight and infertility since 2 years of active married life with a previous history of one abortion.

History of presenting complaints: The complaints started 2 years back as irregular and delayed menses with a previous history of regular cycle after the menarche at 13 years of age. Her marriage was at the age of 24 years with a nonconsanginous man of age 30 years. The menstrual disturbances started just before marriage and during the first 3 months of marriage life she got conceived. But at 2<sup>nd</sup> month of pregnancy, spontaneous bleeding occurred unexpectedly and complete abortion occurred. The patient was advised not to conceive for next 3 months by gynaecologist. After the abortion the complaints got worsened with irregular cycles, excessive weight gain (approximately around 6-8 kg in 2 months), increase in acne, heaviness of body etc. Then they tried for a child, but even after 1 year of unprotected intercourse she failed to conceive. So the couple decided to take Ayurvedic treatment for the same and came to our hospital.

**Personal History:** She had a habit of taking excessive sweet and salty substances, junk foods, fast food, cool drinks etc., with sedentary lifestyle and had a bad habit of chewing pan masala since 2-3 years. She was very anxious and irritable in nature. She had a normal appetite with regular bowel habits and increased sleep hours with day sleep.

**Family History:** No H/O BP/ HTN / Infertility / PCOS **Husband**: Husband had a private job and had a normal Semen Analysis.

**Menstrual History**: She attained her menarche at the age of 13 Years. Since 2 Years she had a menstrual cycle of 3-5 days duration, with an interval of 45-90 days. Moderate bleeding (2-3 fully soaked Pads/Day) was observed with mild pain in abdomen which was relieved by rest during first 2 days of cycle.

**Obstetric History**: She had a history of spontaneous abortion occurred at  $2^{nd}$  month of pregnancy before 2 Years. Her obstetric history was Gravida1, Abortion1 ( $G_1A_1$ ).

Clinical findings: On examination she was an obese woman with android body habits (Apple shaped Obesity) with a height of 156cm and weight 73kg having BMI 30.41Kg/m². Her BP was 130/86mmHg and a pulse of 78/mt. She was a mild hirsute with moderate grade acne over face (cheeks and forehead) and neck, acanthosis nigricans over nape of neck extending to lateral margins of neck. She is of *Pittakapha Prakruti* with *madhyama satva* and *madhyama koshta*.

**Gynaecological examination:** On examination an anteverted normal uterus was found with no other abnormalities.

**Investigations**: Ultrasonography of Pelvis was done to diagnose polycystic ovaries and ovulation study was done to rule out anovulation (Table 1). USG-Pelvis done on 21/4/2017 revealed a normal anteverted uterus and bulky ovaries with bright stroma and multiple small follicles. Ovulation study was done on 14<sup>th</sup>-23<sup>rd</sup> day of cycle before and after treatment revealed anovulation. The patient was advised to do S.TSH before treatment to rule out hypothyroidism. Detailed history of investigations BT and AT was given in table form (Table 2).

**Diagnosis**: Based on Rotterdam Criteria for diagnosis of PCOS, after the analysis of signs and symptoms like Oligomenorrhoea/ Anovulation, androgenic features like hirsutism, android obesity etc. along with the help of sonography, Polycystic Ovarian Syndrome (PCOS) was confirmed. As per Ayurveda the condition is taken as *Granthibhuta Artavadushti* and treatment was planned accordingly.

**Treatment:** The therapeutic plan was *Sodhana chikitsa* (purification therapy) followed by *Samana chikitsa* (oral medication). *Yogabasti* (medicated enema) was planned for *Sodhana*, before *Basti*, *Agni* was corrected by *Deepana* and *Pachana* with *Amapachana vati* [13] for 3 days followed by a *Koshta Sodhana* (emptying bowel) with *Erandabhrishta Haritaki*. [14] *Palasadi basti* [15] was selected as

*Niruhabasti* and *Tilataila* was used for *Anuvasanabasti* and *Pathadi choorna*<sup>[16]</sup> was given as internal medicine for 3 months. *Yogabasti* was repeated in next cycle also. Detailed treatment plan is depicted in Table 3. A healthy diet plan and lifestyle modification was advised to the patient since PCOS is considered as a lifestyle disease.

**Follow up and Outcomes:** The assessment was done during each menstrual cycle and ovulation study was carried out before and after 3 months of treatment. The weight of the patient is reduced by 4 kg after two cycles of basti and oral medication. The weight is maintained at 70 kg during the follow-up period also. The cycles remained at an interval of 45 to 60 days and ovulation study was also negative during the treatment. After 3 months of treatment one cycle

occurred at an interval of 35 days and then the patient again came with the complaint of delayed menses since 15 days on 30/8/17. The patient was advised to do Urine pregnancy test and found as positive. The pregnancy was confirmed by ultrasonography. The patient was advised to take proper rest and avoid coitus during the first 3 months of pregnancy to prevent abortion. Ayurvedic antenatal care was given to the patient throughout pregnancy with regular antenatal check up at our Hospital. The BP and blood sugar were normal during antenatal period and no other complications were found during that period. The patient delivered a female baby with a birth weight of 2.75 kg vaginally at 39th week of pregnancy. The delivery period also was uneventful.

## **Table 1: USG Report of Patient**

Date	Rt Ovary	Lt Ovary	Endometrial Thickness	Remarks
21/4/2017(4th day of LMP) BT	25.3 cc vol	24cc vol	4mm	PCOD++
14/8/17(5 <sup>th</sup> day of LMP)AT	23cc	19cc	4.6mm	PCOD+

### **Table 2: Main Investigations**

Haematology	B.T	A.T	Differential WBC Count (%)	B.T	A.T
Total WBC(/Cu.mm)	5400	4800	Neutrophils	54	64
Hb (gm%)	13.4	13.1	Lymp <mark>ho</mark> cytes	40	30
E.S.R (mm/1st hr/ Westergren.)	46	46	Eosinophils	03	03
Total.R.B.C Count (mil/cumm)	4.30	4.04	Monocytes	03	03
Platelet Count (10 <sup>3</sup> /ul)	412	334	Basophils	00	00
Biochemistry	B.T	A.T	Biochemistry	B.T	A.T
FBS (mg/dl)	85	95	S.G.P.T. (IU/L)	29	19
S.Cholesterol (mg/dl)	159	161	S.G.O.T. (IU/L)	25	17
S.Triglyceride (mg/dl)	90	73	T.Protein (gm/dl)	7.1	7.6
HDL Cholesterol (mg/dl)	33	39	Alkaline Phosphatase (IU/L)	51	56
LDL Cholesterol (mg/dl)	108	107	Uric acid (mg/dl)	3.6	4.6
Blood Urea (mg/dl)	12	13	S.Testosterone (ng/dl)	35.8	
S.Creatinine (mg/dl)	0.8	1	S.TSH (µIU/ml)	1.414	

### **Table 3: Treatment Protocol**

Treatment Procedure	Method of Administration	Treatment duration
Dipana, Pachana with Amapachana vati	2 bd with warm water orally before food	3 days
Koshta sodhana with Erandabhrishta hareetaki	15 gm given with warm water at night	1 day
Palasadi Yogabasti	Niroohabasti with 750ml (approx.) Palasabasti and Anuvasana basti with 80ml of Tilataila (Per Rectal)	8 days (after menstruation for 2 cycles)
Samana with Pathadi choorna	6gm bd with hot water orally after food	3 months

Table 4: Ingredients of Amapachana Vati Ref. Chikitsa Pradip

S.No.	Drug	Botanical/Latin name	Parts used	Quantity
1	Haritaki	Terminalia chebula Retz.	Dried fruit	1 part
2	Sunthi	Zingiber officinale Roscoe	Rhizome	1 part
3	Marica	Piper nigrum Linn.	Fruit	1 part
4	Pippali	Piper longum Linn.	Fruit	1 part
5	Suddha Karaskara	Strychnos nuxvomica Linn.	Seed	1 part
6	Hingu	Ferula foetida Linn.	Exudate	1 part
7	Goghrta	Cow's ghee		
8	Saindhava	Rock salt	Mineral	1 part
9	Kumari Swarasa	Aloe barbedensis Mill	Leaf	Q.S

Table 5: Ingredients of Erandabhrishta Hareethaki (Ref. Nighantu. Ratnakar, Shlipada Rogadhikar)

S.No.	Drug	Botanical/Latin name	Parts used	Quantity
1	Erandtaila	Ricinus communis Linn.	Oil from the seeds	Q.S
2	Haritaki	Terminalia chebula Retz.	Dried fruit	1 part

Table 6: Ingredients of Pathadi Choorna (Ref. Susrutha Samhita Sa. 2/14)

S.No	Drugs Botanical Name		Parts used	Quantity
1	Patha	Cissampelos pareira.Linn.	Dried Root	1 part
2	Pippali	Piper longum Linn.	Dry Fruit	1part
3	Sunthi	Zingiber officinale Roxb.	Dry Rhizome	1 part
4	Marica	Piper nigrum Li <mark>n</mark> n.	Dry Fruit	1 part
5	Vrikshaka	Holarrhena anti <mark>d</mark> ysentri <mark>ca</mark> Linn.	Dried Seed	1 part

Table 7: Ingredients of Palasa Nirooha Basti\* (Ref. Charaka Samhita Si.3/44-45)

S.No	Drug Name	Mode of Administration	Botanical Name	Part Used	Quantity
1	Palasa	Kwatha	Butea Monosperma (Lam.) kuntze	Dried Stem Bark	500 ml (from 125gm coarse powder)
2	Satahva	Kalka	Anethum sowa Kurz.	Dried Seeds	30 gm
3	Vacha	Kalka	Acorus calamus Linn.	Rhyzome	15 gm
4	Magadhika	Kalka	Piper longum Linn.	Dry Fruit	15 gm
5	Madhu	-	Apis cerana Fabr.	-	75 gm
6	Saindhava	-	Soddi Chlorodum.	-	6 gm
7	Tila taila	Taila	Sesamum indicum Linn.	Seed oil	150 ml

**Preparation of** *Basti dravya* **for** *Nirooha*: *Basti dravya* was prepared by mixing in the order of *Saindhava, Madhu, Taila, Kalka, Kashaya* and finally a homogenous mixture was formed. This mixture was filtered and used for *Nirooha Basti*.

#### Yoga basti Procedure

Palasa basti was used as Nirooha basti and Tilataila for Sneha basti. 1st 2 days Sneha basti was done, then alternate 3 Nirooha and 2 Sneha basti and ends with one Sneha basti. Nirooha basti was

administered in empty stomach and *Sneha basti* after the intake of food.

**Poorva Karma:** Sthanika Abhyanga (Local massage of abdomen and low back) with Bala Taila for 15-20 min and after that local Swedana was done for 15-20 min.

**Pradhana Karma**: Enema can was filled with the lukewarm *Basti dravya* and *Nirooha basti dravya* was administered per rectally to the patient in left lateral

position with enema nozzle which is connected to an enema can.

**Pashcat Karma**: After return of *Basti dravya* and evacuation of bowel, patient was advised hot water bath and intake of food. Proper rest was advised after *Niropha Basti*.

*Sneha Basti*: Bed rest for at least 1 hour and hot water bag *Swedana* for abdomen.

#### **DISCUSSION**

The incidence of Polycystic Ovarian Syndrome in India is increasing due to improper dietary habits and sedentary lifestyle. Even though PCOS can be considered as Vatakapha predominant Tridoshaja vyadhi at final stage, Kapha is the predominant *Dosha* involved in the initial *Samprapti* of this disease. Due to the sedentary lifestyle and increased intake of fast foods irrespective of appetite lead to *Jatharagnidushti* (impairment of metabolism) and Ama formation (metabolic waste products accumulation). The patient is continuing the improper Ahara and Vihara without much physical activity lead to formation of *Vikrutadoshas* especially Malaroopa kapha and further progress to the level of Dhatvagnimandya. The similarity in Kapha and Rasadhatu causes Rasadhatudushti at the initial level; hence formation of Artava is affected and manifested as Oligomenorrhoea. The increased Kapha along with Ama which prevents normal functioning of Vata, which results in impaired hpo axis (*Prana*), improper nourishment of *Dhatus* by *Vyana* (increased *Medo* dhatu in obese patients and decreased Dhatus in lean PCOS), vitiated Apana affects the Artava nishkramana function leads to amenorrhoea/Oligomenorrhoea. The normal Doshas plays a significant role in the ovulatory cycle also. For the proper maturation and rupture of follicle in the ovary *Vata* and *Pitta* plays an important role along with Agni. Due to vitiated Vata and Kapha which blocks the function of Pitta leads to improper maturation of follicles and forms small cysts. The increased number of cysts in ovary produces a *Sophavastha* in the ovary (bulky ovaries). Evidences also suggest that a low grade chronic inflammation is present in ovary of PCOS patients. In this case the patient was obese with Pittakapha prakruti and with Vatakaphadushti along with Rakta exhibited as moderate grade acne in face and neck with few pustules. The vitiated *Kapha* along with *Ama* causes vitiation of Rasavaha, Raktavaha, Mamsavaha, Medovaha and Artavavaha srotases and produces symptoms like heaviness of body, laziness, excess sleepiness, abdominal obesity, hirsutism, weakness of body, Oligomenorrhoea, infertility etc. The treatment procedure was aimed to remove the Amavastha prevailed in the disease by proper Dipana and Pachana and Sodhana, thus improving the Agni and to stabilize the Doshas in the normal state. Basti is mainly indicated in Vatika disorders Even though Basti is mentioned in vitiation of all the Vata, Pitta, Kapha and Raktadosha disorders. Hence Bastikarma was administered after Mrudu sodhana. The most of drugs in Palasabasti are Katuthikta rasa, Ushna virya, Katu vipaka, Lekhana and Vatakaphahara in action. Overall *Palasabasti* helps in *Srotosodhana* by removing vitiated Doshas especially Vatakapha and also having specific action in gynaecological disorders as it is indicated in Yonidoshas. Tilataila was selected for *Anuvasanabasti* due to properties of Vatakaphahara, Lekhana, Vyavayi, Vikasi, Garbhasaya sodhana, vrishya and specially Brimhana for Krisa and Lekhana for Sthoola. Pathadi choorna mentioned in Granthibhoota artavadushti helps to maintain the *Agni* by its *Dipana*, *Pachana* and Vatakaphahara by Katu rasa and Ushna virya and Pittaprakopa was not occurred due to *Madhuravipaka*. *Pathadi choorna* also helped to maintain the proper metabolism in PCOS patients and thereby maintaining the weight. The Vrishya action of *Palasabasti* and *Tilataila* also helped the patient to conceive during the follow-up period.

#### CONCLUSION

The Ayurvedic treatment protocol including Sodhana and Samana helped in improving the ovulation, oocyte quality, and endometrial receptivity and finally resulted in a live birth with no further complications during the antenatal period in an infertility patient with previous history of abortion. As 5-10% weight reduction is the first line management of PCOS, it can be achieved and regulated by Ayurvedic medicines especially Pathadi Choorna which can be easily made available as it contains only 5 drugs. Ovulation can be restored with medicine but decreased cumulative pregnancy rate was a problem for conception in PCOS patients. The conception rate can be increased by proper Ayurvedic treatment protocol. This case study helps to plan a treatment protocol in PCOS patients having infertility.

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