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Case Study

AYURVEDIC MANAGEMENT OF PRIMARY INFERTILITY ASSOCIATED WITH PCOS -A CASE REPORT

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ABSTRACT

Poly cystic ovarian syndrome is a condition characterised by a wide range of signs and symptoms including menstrual irregularities, obesity, acne, hirsutism and is causing adverse effects on metabolic and endocrinal system. Exact etiology and pathophysiology is still unclear but it's having a strong familial predisposition. This is a case report on an anovulatory infertility caused by PCOS. A 27-year-old female patient presented to the *Streeroga* OPD at ITRA On December 29, 2020, complaining of infertility, irregular and delayed menstruation, and weight gain over the past three years. She has been taking allopathic medicine for the same for the last two years. During her initial opd visit, she received a thorough medical history as well as all relevant clinical, physical, and laboratory tests. Bulky ovaries with polycystic morphology were discovered on sonography. Anovulatory factor infertility owing to PCOS was determined based on clinical symptoms and sonography. *Pathadi choorna* and *Arogyavardhini rasa* were chosen as medications and *Samana oushadha* was chosen as the line of management. The patient was counselled on lifestyle changes, the need of exercise, and correction of food habits. Patient was under medication for a period of 5 months. Patient got conceived after that and on 8th February 2022 she gave birth to a healthy male baby per vaginally with a baby weight of 3.2 kg.

INTRODUCTION

PCOS or Polycystic ovarian syndrome is the most prevalent endocrinological disease affecting almost 25% of women at all stages of their reproductive life.[1] The syndrome is defined by three basic features like oligomenorrhoea or anovulation, hyperandrogenism (as seen by high serum androgen or hirsutism) and Polycystic ovarian morphology according to Rotterdam 2003 criteria, the presence of two of these three symptoms are enough to diagnose PCOS.[2] As per WHO Globally prevalence estimates of PCOD are highly variable ranging from 2.2% to as high as 26%.[3] PCOS is a complex condition that affects at least 7% of adult females. According to published research, PCOS affects 5-10% of females aged 18 to 44, making it the most frequent endocrine condition seen among women of reproductive age.[4]

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Due to changes in living style, food habits, and mental stress, it has become a significant concern for women's health in the contemporary environment. Treatments for a few of symptoms, such as menstrual irregularities, obesity, and hirsutism, are frequently initiated by women. Infertility, diabetes, endometrial cancer, hypertension, and cardiovascular disease are among the most serious medical complications. In current medicine, there is no permanent and effective treatment for PCOS other than OCP, Metformin, and pharmaceuticals like Letrozole for ovulation induction, combined with symptomatic care. Furthermore, it may fail to prevent the long-term effects of PCOS.[5]

There is no definite correlation for PCOS in Ayurvedic texts. There are certain conditions that might be linked to it. *Sthoulya* (Obesity), *Lomashaganda* (Hirsutism), or hairy and corpulent cheeks, and *Vrithapushpa* (anovulation) with menstrual abnormalities are some of the clinical symptoms of PCOS that can be correlated to *Pushpaghni Jataharini* stated in the *Kasyapa Samhita*. Another disorder with the clinical feature of pathological Secondary Amenorrhoea, similar to PCOS, is *Vandhya Yoni Vyapad*[6] with the particular characteristic of *Nashtartava*. *Granthi bhutha*

artavadusti[7] due to *Vata kapha dusti* is another entity we can correlate. When it comes to analysing the *Samprapti, Stoulya* and *Prameha* come to mind. The pathophysiology of *Artava Dushti* may be due to the involvement of *Rasavaha Srotas* and improper *Dhatu Poshana*. *Nidana Sevana* causes *Jatharagni* to become deranged, which then causes *Dhatwagni* and *Bhutagni* to become deranged, causing the HPO axis to become dysregulated. *Granthibhuta Artava* and *Anapatyata* are linked by *Srotoavarodha, Amotpatti,* and *Rasadi Dhatwagnimandya*. The vitiation of *Jatharagni Mandya* can be rectified at an earlier stage, whereas the vitiation of *Dhatwagni* cannot be reversed as quickly. On this basis, it is appropriate to view the disease's chronicity and classify it as a *Yapya roga*. Furthermore, to cure *Ama* at the *Dhatu level*, a lengthier therapy period is required. If not addressed appropriately, *Dhatwagni Vikriti* might progress to genetic levels (*Shukra and Shonita*).

MATERIALS AND METHODS

Case report

Presenting Complaints: Inability to conceive, Irregular and delayed menstruation, increased weight gain since 3 years.

History of presenting complaints: According to the patient she had menarche at the age of 13 and had a regular menstrual cycle with an interval of 28-32 days previously. She was married at the age of 23, after that she started to gain weight gradually and her menstrual cycle tend to become irregular with an interval of more than 40 days. But she didn't paid much attention on it. She had a weight gain of about 8 kg is in the last 4 years. In spite of being unable to conceive after 2 years of unprotected family life she consulted an allopathic gynaecologist and underwent treatment for menstrual irregularity and infertility. Medicines were given for withdrawal bleeding and ovulation induction but it doesn't succeed. After 1 year of medication consultant suggested HSG. On HSG examination bilateral tubes were open and free spillage seen. Even after 6 months of treatment followed by these she was unable to get conceive and thus came here for Ayurvedic management.

Personal history: On analysing her habits, it was found that the patient had the history of irregular dietary habits and she used to take fast food and followed a sedentary lifestyle. Had a habit of eating out twice in a week. Her appetite was irregular and digestive capacity was reduced. Bowel habit was not regular with hard stool and occasional constipation. There was no problem with micturition. Patient had a habit of day sleep of about 2 hrs in afternoon.

Family history: Father was hypertensive (was under medication since last 8 years)

Husband factor: Husband – Job in a private firm. Semen analysis was normal.

Menstrual history: Patient had her menarche at the age of 13 Years. She had a regular menstrual cycle upto 23 years with an interval of 28-32 days and duration of 5-7 days. Bleeding was moderate with (2-3 fully soaked Pads/day) and experienced mild to moderate pain in lower abdomen which was relieved by hot water fomentation during first 2 days of cycle. Since last 3 years cycle interval become 40-45 days, irregular, bleeding last for 5 days.

Obstetric history: Nil

Clinical findings: On examination she was obese in appearance with a height of 158cm and weight 79kg having BMI 31.6Kg/m2. Her BP was 110/76mmHg and a pulse of 72/mt. She had *Acanthosis nigricans* over nape of neck extending to lateral margins and pimples were present.

Gynaecological examinations

Per vaginal

Uterus : Anteverted with normal size

Cervix: Firm, non tender, healthy

bilateral fornices were clear, no adnexal mass, non tender.

Per speculum

Cervix healthy, no discharge.

Investigations: An Ultrasonography of the pelvis was performed to rule out anovulation and to identify polycystic ovaries. On December 30, 2020, an ultrasound of the pelvis revealed a typical anteverted uterus and bulky ovaries with PCO morphology. Anovulation was discovered after each cycle's ovulation study. Tables were given to provide a detailed history of the BT and AT investigations.

Diagnosis: The diagnosis of Polycystic Ovarian Syndrome (PCOS) was confirmed after the analysis of signs and symptoms such as Oligomenorrhoea/ Anovulation, as well as polycystic morphology on sonography, according to the Rotterdam Criteria for PCOS diagnosis. The condition is correlated as *Granthibhuta Artavadushti* in Ayurvedic texts, and therapy was devised appropriately.

Treatment: In this situation, a *Samana oushadha chikitsa* was planned because the patient refused to be admitted to the IPD. For *Jataragni* correction, treatment began with the administration of *Amapachanavati*[8] two times a day after food and lukewarm water for five days. The next day, *Erandabrushta hareetaki churna*[9] 15 gm was administered with warm water at night. The patient had bowel movement four times in the morning, resulted in *Koshtasuddhi. Pathadi churna* 5gm and *Arogyavardhini rasa* 250 mg taken twice daily on an empty stomach with lukewarm water started from the the next day. The treatment strategy was continued for another four months. Along with these lifestyle

adjustments, exercise, and dietary changes were advised.

Follow-up and outcome: Patient visited OPD in every week. During treatment menstruation occurred 3 times and ovulation study was carried out. For the first 2 times there were no dominant follicles seen. On May 28th ovulation occurred and patient was instructed to have relation, on June 16 she came with positive pregnancy test reports and after one week intra uterine pregnancy detected by ultrasonography. Patient was given advice regarding dietetics and regiments during ante natal period. She followed Ayurvedic antenatal care throughout pregnancy with regular antenatal check up from here. No complications were found during ante natal period. The patient delivered a male baby with a birth weight of 3.2 kg vaginally on 8 February 2022.

Table 1: Treatment Protocol

Treatment Procedure	Mode of administration	Treatment duration
Dipana, Pachana with *Amapachana vati*	2 table bd after food with warm water	5 days
Koshta sodhana with *Erandabhrishta hareetaki*	15 gm given with warm water at night	1 day
Samana with *Pathadi choorna* and *Arogyavardhini rasa*	5gm bd with hot water orally before food 250mg bd before food along with *Pathadi churna*	4 months

Table 2 : Blood Investigations

Hematology	**B.T.**	**A.T.**
Total WBC (/ Cu.mm)	9180	8620
Hb (g %)	13.1	11.7
E.S.R.(mm / First hr /	22	38
Biochemistry		
FBS (mg/dL)	71	82
S.Cholesterol (mg/dL)	162	174
S. Triglyceride(mg/dl)	121	98
S.HDL	37.6	41
S.LDL	100.2	97
Total Bilirubin	0.27	0.34
SGOT	29	23
SGPT	57	26

Table 3: Ovulation Study USG

Date	Day from LMP	Right ovary	Left ovary	Endomertium	Cervical mucus
25/1/21	12	-	-	6.8 mm	
27/1/21	14	-	-	7 mm	
8/3/21	13	-	-	7mm	
10/3/21	15	-	-	7.2 mm	
24/5/21	14	12 14	-	7mm	
26/5/21	16	20 22	-	7.8mm	
28/5/21	18	CLH	-	8mm	Ovulation

Table 4: Ingredients of *Pathadi Choorna* (Ref.*Susrutha Samhita* Sa.2/14)

Sr. No	Drugs	Botanical Name	Parts used	Quantity
1.	*Patha*	*Cissampelos pareira* Linn.	Dried root	1 part
2.	*Pippali*	*Piper longum* Linn.	Dried Fruit	1part
3.	*Shunthi*	*Zingiber officinale* Roxb.	Dried Rhizome	1 part
4.	*Maricha*	*Piper nigrum* Linn.	Dried Fruit	1 part
5	*Kutaja*	*Holarrhena antidysentrica* (Roth) A. DC.	Dried seed	1 part

Table 5: Ingredients of *Arogyavardhini Rasa (Rasa Ratna Samucchaya*. ೨೦/೭೮-೪೩)

Sr.No	Drug	Botanical Name	Used materials	Quantity
1.	*Suddha Parada*	Mercury	Processed Mineral	1 part
2.	*Suddha Gandhaka*	Sulpher	Processed Mineral	1Part
3.	*Tamra Bhasma*	*Copper*	Processed Metal	1Part
4.	*Loha Bhasma*	Iron	Processed Metal	1Part
5.	*Abhrak Bhasma*	Mica Black	Processed Mineral	1Part
6.	*Triphala Choorna* (1:1:1)	*Terminalia chebula* Retz.	Dried Fruit	2 Part
		Terminalia bellirica Roxb.	Dried Fruit	
		Emblica officinalis Gaertn.	Dried Fruit	
7.	*Suddha Silajit (Gomutra sodhita)*	Purified black bitumen	Bitumen	3 Part
8.	*Suddha Guggulu (Gomutra sodhita)*	*Commiphora mukul* Hook. ex Stocks	Oleo gum resin	4 Part
9.	*Shweta Chitraka Moola*	*Plumbagozeylanica* Linn.	Dried Root	4 Part
10.	*Katuki*	*Picrorrhiza kurroa* Royle ex Benth.	Dried Root	18 Part
Bhavana Dravya				
1.	*Nimba patra swarasa*	*Azadirachta indica* A. Juss.	Leaf juice	7 times

Table 7: 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		1 part
8	*Saindhava*	Rock salt	Mineral	1 part
9	*Kumari Swarasa*	*Aloe barbedensis* Mill	Leaf	Q.S

Table 6: 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

DISCUSSION

All gynaecological illnesses are classified into twenty varieties of *Yoni Vyapad* and eight types of *Artava Dushti* in Ayurvedic classics. In classics, there is no specific aetiology or pathophysiology that can be directly linked to PCOS. Analyzing the symptoms, *Dosha* status, *Dhatus, Agni, Srotas*, and other factors might help to understand the etiopathogenesis of PCOS. *Trichosha dushti* is caused by a variety of *Aharaja* (dietary), *Viharaja* (lifestyle), and *Manasika* (psychological) etiological variables, with *Kapha-Vata dosa* vitiation predominating. Excessive and continuous use of *Madhura, Guru, Sheeta,* and *Snigdha ahara*, as well as dietary practices such as *Samashana, Adhyashana, Vishamasana*, can result in *Tridosa dusti*, *Agnimandya*, and S*rotorodha*. Even when wholesome food is consumed in sufficient quantities, *Manasika bhavas* such as rage, sadness, worry, and fear cause *Ama* development. *Mithya viharas* such as *Divaswapna, Ratrijagarana, Vega dharana,* and *Avyayama* may contribute an add on effect to the above *Nidanas.* As a result, the *Avasthapaka* process becomes disrupted, and the resulting *Ahara rasa* becomes *Aparipakva,* with no *Saratara ahara parinama.* The *dhatus* that result will not have their highest attributes. *Ama* is formed when *Aparipakva ahara rasa* is combined with *Kleda adikya*. The final outcome will be *Sama dhatu, Mala,* and *Upadhatu. Uttarottara dhatu poshana* is harmed by *Ama* generated by *Mandagni.* Both of these factors contribute to the incorrect development of the *Medo dhatu*. The *Dhatu* increases disproportionately as a result of *Dhatvagnimandya.* Similar to *Stoulya,* the pathophysiology that occurs. There is a condition of constant *Dhatwagni mandya* in the body, leading *Ama* production and *Srotorodha*, and then *Vatavigunya,* especially *Apana vaigunya,* since *Artava vaha srotas* is placed in *Apana kshetra,* resulting in faulty *Artava pravrti* and delayed or absent menstruation. When *Dhatvagni* is disrupted, the creation and usage of that *Dhatu* is hampered, and *Ama* is created. It shares some similarities with the pathology observed in PCOS. Because the formation of *Beeja* is incomplete, the process of *Beeja nirmana* comes to a halt at the follicular stage, resulting in cysts. These cysts might be interpreted as *Ama* created by *Dhatvagnimandya* in the *Artavavaha srotas. Ama* has the ability to attach to the walls of the *Srotasas* when it is condensed. It is defined as a collection of numerous cysts on the ovaries' periphery. The vitiated *Kapha,* in conjunction with *Ama,* causes vitiation of the *Rasavaha, Raktavaha, Mamsavaha, Medovaha,* and *Artavavaha Srotases.* The therapy technique intended to improve *Agni* by removing the *Amavastha* that had predominated in the condition by correct *Dipana, Pachana,* and *Sodhana*. *Arogyavardhini Rasa* possesses *Deepana-Pachana, Hridya,* and *Medonashaka* properties according to the *Rasaratna Samucchaya*, making it particularly good for metabolic issues. *Katuki,* which is beneficial in regulating liver function and rectifying body metabolism, makes up half of the material of *Arogyavardhini Rasa. Tamra bhasma, Guggulu, Katuki,* and *Triphala* all have *Lekhana, Deepana,* and *Medohara* characteristics. *Pathadi choorna,* as indicated in *Granthibhoota artavadushti*, aids in the maintenance of *Agni* by its *Deepana, Pachana gunas*, and *Vatakaphahara* through *Katu rasa* and *Ushna virya*, while *Pittaprakopa* is prevented by its *Madhuravipaka*. *Pathadi choorna* also helped PCOS patients maintain a healthy metabolism and, as a result, their weight.

CONCLUSION

As a result of changes in lifestyle, dietary habits, and stress levels, infertility is on the increase in the modern world. One of the most major factors is anovulatory factor, which is most commonly represented by Polycystic ovary syndrome (PCOS). It's a common but poorly understood clinical entity that manifests itself in a variety of ways. Clinical, morphological, biochemical, endocrine, and, more recently, molecular research have shown a slew of underlying abnormalities, further complicating the disease's aetiology. In PCOS, early diagnosis and rapid care with lifestyle and dietary adjustments are required, which can help to prevent additional complications. In the domain of infertility and other clinical disorders connected with PCOS, Aurveda has a wide range of therapy techniques with proven outcomes. An effort at a prospective therapeutic option and the predicted mode of action of the medicine has been detailed in this case study.

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