SHATAPUSHPA TAILA MATRA BASTI, A REMEDY FOR POLYCYSTIC OVARIAN SYNDROME: AN ANALYTICAL REVIEW THROUGH AYURVEDIC PROSPECTIVE

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ABSTRACT
Women experiences many transitions and cycles through life and the ebb and flow of hormones; as our lifestyle has become more stressful and unnatural this has led to different types of gynecological problems. Nowadays increasing number of patients with various forms of menstrual irregularities is seen attending the outpatients, among these PCOS is important one. PCOS (Polycystic Ovarian Syndrome) is the most common hormonal disorder affecting women of reproductive age which is characterized by elevated androgen levels, menstrual irregularities, and/or small cysts on one or both ovaries. PCOS is a set of symptoms, so in Ayurveda it can be correlated with Artava Kshaya, Pushpaghani Jataharini, Vandhya Yonivyapad etc. Allopathic treatments shows temporary relief in curing of this disease and produce massive side effects. Thus, it is necessary to modulate an Ayurvedic approach towards the disease. In Ayurveda, especially Panchakarma therapy provides a clear response to the rising problem of PCOS in the modern era. Shatapushpa oil when administered through rectum in the form of Matra Basti, it nourishes the reproductive system and detoxifies it at the same time. It
works on the main Dosha i.e. Vata Dosha. It also relieves stress from the body and mind to improve the quality of life. Hence, it is one of the most highly recommended therapy in PCOS.

**KEYWORDS:** Artava Kshaya, PCOS, Shatapushpa, Panchakarma, Matra Basti.

**INTRODUCTION**

Polycystic ovarian syndrome (PCOS) is a hormonal disorder causing enlarged ovaries with small cysts on the outer edge. The disorder can be morphological (polycystic ovaries) or predominantly biochemical (hyperandrogenemia). Hyperandrogenism, a clinical hallmark of PCOS, can cause inhibition of follicular development, microcysts in the ovaries, anovulation, and menstrual changes.[1] According to Ayurvedic aspect, it can be correlated with Artava Kshaya. Artava Kshaya is a condition where menstruation does not occur at appropriate time, or is less in quantity or occurs causing pain and discomfort.[2]

Prevalence of PCOS is highly variable ranging from 2.2% to 26% globally. The rates of polycystic ovarian syndrome have been reportedly high among Indian women compared to their Caucasian counterparts[4] with an estimated prevalence of 9.13% in Indian adolescents.[5,6]

Women seeking help from health care professionals to resolve issues of obesity, acne, amenorrhea, excessive hair growth, and infertility often receive a diagnosis of PCOS. Women with PCOS have higher rates of endometrial cancer, cardiovascular disease, dyslipidemia, and type-2 diabetes mellitus.[7]

In the allied sciences, it is treated with hormonal therapy, which produces massive side effects. Thus, it is necessary to modulate an Ayurvedic approach towards the disease and formulate the principles of management. Panchakarma therapy is designed to eliminate the vitiated Doshas through the nearest route and to maintain a state of its equilibrium. The unique feature of the Panchakarma therapy is to destroy the disease from the root level.[8] According to Acharya Kashyapa, in all the disorders of Artava use of Shatapushpa is beneficial and Shatapushpa oil is properly prepared and it should be used in the form of Nasya, Pana, Snehana, Abhyanga, and Basti.[9] In PCOS, abnormal hormone levels prevent follicles from growing and maturing to release egg cells. So Matra Basti with Shatapushpa Taila is the appropriate therapy for extrusion of ovum from the follicles and ovulation.
Disease review

Polycystic ovary syndrome (PCOS) is a hormonal disorder common among women of reproductive age. It was first described in 1935 by Stein and Leventhal and called as Stein-Leventhal Syndrome for many years. It is a heterogeneous disorder characterized by Amenorrhoea, Hirsutism, Obesity associated with enlarged polycystic ovaries.\(^\text{10}\) PCOS can be described as an oligogenic disorder in which the interaction of a number of genetic and environmental factors determine the heterogeneous, clinical, and biochemical phenotype.\(^\text{[11]}\)

Although the genetic etiology of PCOS remains unknown, a family history of PCOS is relatively common; however, familial links to PCOS are unclear. Environmental factors implicated in PCOS (e.g., obesity) can be exacerbated by poor dietary choices and physical inactivity; infectious agents and toxins may also play a role.\(^\text{[11]}\)

Exact pathophysiology of PCOS is not clearly understood but it can be discussed under the following headings.\(^\text{[10]}\)

2. Androgen excess and Anovulation.
3. Obesity and insulin resistance.
4. Long – term consequences

Clinical signs of PCOS include elevated luteinizing hormone (LH) and gonadotropin–releasing hormone (GnRH) levels, whereas follicular-stimulating hormone (FSH) levels are muted or unchanged. As a result of the increase in GnRH, stimulation of the ovarian thecal cells, in turn, produces more androgens.\(^\text{[12]}\)

Symptoms include Obesity (abdominal-50%), Menstrual Abnormalities (Oligomenorrhoea, Amenorrhea, DUB) and infertility-70%, Hirsutism and Acne – 70%, Virilism – rare, Acanthosis nigricans - due to insulin resistance.\(^\text{[1]}\)

Three tools can be used to diagnose PCOS

<table>
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<tr>
<td>• Hyperandrogenism</td>
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<td>• Exclusion of other related disorders</td>
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Risk factors are- Diabetes mellitus (15%), Endometrial Carcinoma, Hypertension and cardiovascular disease, obstructive sleep apnoea.\[10\]

Because the primary cause of PCOS is unknown, treatment is directed at the symptoms. Weight reduction for obese patients with PCOS is beneficial in many ways. Drugs include Metformin, OCP (progesterone), Antiandrogens (Spironolactone), Ovulation inducing drugs (Clomiphene citrate and Letrozole). Surgery include Laparoscopic ovarian drilling (LOD).

According to Bhavaprakasha in Purvakhanda, he said thus regardless of whether there is no immediate referencing of a disease in Ayurveda which is having direct relationship with any modern disease; a point by point investigation of the Lakshanas, the condition of Doshas, Dhatus, Agni, Srotasas and so forth., will guide to formulate an Ayurvedic management by understanding its Samprapti or pathogenesis.

1. Artava kshaya

In Ayurveda classics Artava is taken as Upadhatu of Rasa Dhatu. The factors which are responsible for Kshaya of Dhatu and Updhatus are also responsible for Artava Kshaya. So Rasa Kshaya is Samanya Nidan of Artava Kshaya. Vishesha Nidan of Artava Kshaya are Kapha and Vata Parakopa Nidan like Ati Katu, Tikta, Kashaya Sewan, Excessive intake of Guru, Abhisyandi, Picchila, Ati Vyavaya, Chinta, Jagarana, Vegadharana and Diwaswapna etc.

The Artava Kshaya\[2\] is a condition where the menstruation does not appear in its appropriate time or is delayed or intermenstrual period is prolonged as well as the quantity of menstrual flow is reduced or scanty and menstruation is associated with pain. Irregular and scanty menses is one of the symptom of PCOS.
In treatment portion of Artava Kshaya, According to Acharya Sushruta it should be treated by the use of Samshodhana and Agneya substances.

According to Acharya Charaka in Sutra Sthana, he include Vamana, Virechana, Nasya, and Niruha Basti in Samshodhana.

As per Acharya Kashyapa in Alpa Pushpa (oligo/hypomenorrhoea), Nasht Pushpa (amenorrhoea), Anuvasana Basti is the choice of treatment.

Agneya substances have Kapha Vataghna effect. It include Tila, Masha, Sura, Sukta etc.

Dalhana says that for Shodhana, only Vamana should be used, not the Virechana, because Virechana reduces Pitta which in turn decreases Artava, while Vamana removes Saumya substances, resulting into relative increase in Agneya constituents of the body, consequently Artava also increases.

2. Pushpaghni jataharini
PCOS can be correlated to a condition Pushpaghni Jataharini described by Kashyapa Samhita in Revati Kalpadhyaya. It have although regular, but fruitless cycle. She has
corpulent cheeks with excessive hair growth. This may be considered as clinical manifestation of hyperandrogenism resulting in hirsutism & anovulation (PCOS) leads to infertility.

**Drug review**

<table>
<thead>
<tr>
<th>Drug</th>
<th>Botanical Name</th>
<th>Family</th>
<th>Rasa Panchaka</th>
<th>Karma</th>
<th>Chemical Composition</th>
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| Shatapushpa⁻ | Anethum sowa Kurz. | Umbelliferae | **Rasa:** katu-tikta, **Guna:** laghu, Snigdha, tikshna. **Virya:** ushna. **Vipaka:** katu. **Doshagnata:** Kaphavatashamaka | Acc. To acharya Kashyapa⁹ | - Carvone (19.5% - 69.7%) | - Dihydrocarvone (7.2% - 14.3%) | - Limonene (9.0% - 34.4%) | - Apiole (5.7% - 15.6%) | - Alpha-Pinene (5.0% - 7.3%) | - alpha-terpene (3.6% - 7.3%) 

- **Brumhaniya** (anabolic) and **Balya** (health Promoting) 
- Increases **pushti**, **Varnya** and **Jatharagni** (promotes health, Complexion and Increases digestive Fire) 
- **Rutupravartani** (initiates artava And beejotsarga I.e. Ovulation), **Yonivishodhana** (cleaning and purity of reproductive tract) 
- **Ushna** in **veerya** (hot potency) **vataghna** (pacifies **vata**) **putraprada** and **veeryakari** (improves sperm quality)
Karma review

Basti therapy is considered as Ardhachikitsa among all the therapy because it has a vast field of therapeutic action. According to Acharya Charaka\textsuperscript{14} the karma in which, the medicine is administered through anal canal reaches up to the Nabhi Pradesh, Kati, Parshva, Kukshi churns the accumulated Dosha and Purisha, spreads the unctuousness all over the body and easily comes out along with the Purisha and Dosha is called Basti.

On the basis of Adhisthana, it is of four types i.e. Pakvashyagata Basti, Garbhashyagata Basti, Mutrashyagata Basti and Vrina Basti. Pakvashyagata Basti include Sneha and Niruha Basti. The Basti in which medicated Taila, Ghrita, Vasa and Majja are administered through the anal canal into the colon called Sneha Basti. According to the dose, Sneha Basti is classified into three types i.e. Sneha (6 Pala = 288ml), Anuvasana (3 Pala = 144ml), Matra (1.5 Pala = 72ml).

The dose which is equal to Hrisva Matra of Snehapana is called Matra Basti.\textsuperscript{15} It can be given at all times without any complications. There is not any restriction during the course of Matra Basti. Patient should be given Yusha, milk, Mansarasa or any diet which is suitable to patient in less quantity i.e. \( \frac{1}{4} \) of routine diet before Basti.\textsuperscript{16} The procedure of Matra Basti therapy is divided into three headings i.e. Purvakarma, Pradhana Karma and Paschat Karma. In Purvakarma, Local Abhyanga and Swedana should be done on kati Prushtha Pada Parsva Adhodara Pradesha. In Pradhana Karma, advise the patient to lie down in the left lateral position on the Basti table, keeping his/her left hand below the head as a pillow, extend the left leg completely and flex the right leg at the knee joint, keeping on the left leg by flexing the hip joint. Slowly and steadily oil was administered through rectal route with plastic syringe and rubber catheter. At the time of insertion of the oil patient was asked to inhale and exhale deeply and she was kept relaxed as possible. In Paschat Karma, Gluteal region should be striked with palms and advised to lie down supine for at least 30 minutes. The normal time of Pratyagamana is 3 Yama i.e. 9 hours.

**DISCUSSION**

As we all know, today’s sedentary lifestyle and stress are causing many diseases. Especially hormone imbalance is being seen a lot in women. PCOS is one of such condition that caused by hormonal imbalance. Any defect in H-P-O axis will cause hormonal or chemical imbalance which may alter the ovarian function leading to PCOS, which is one of the leading cause of female subfertility. PCOS is a syndrome i.e. group of signs and symptoms,
so in *Ayurveda* its signs and symptoms can be correlated with *Artava Kshaya, Pushpghani Jataharani, Vandhya Yonivyapada, Granthi, Stholya* etc.

The word *Artava* denotes two meanings one of them is *Adrushtartava/Antaha Pushpa* and another one is *Drushtartava/Bahi Pushpa*. *Antaha Pushpa* denotes the ovarian cycle and ovulation that is not visible externally. *Bahi Pushpa* denotes endometrial cycle evidenced by menstrual bleeding. In PCOS there will be ovulation dysfunction which leads to menstrual abnormality.

The action of *Shatapushpa* is *balya, brihaniya, deepana, pachan, yonivishodhana, rutupravartana* etc. as described by *Kashyapa*. Here, “*Rutupravartana*” indicates both *artavajanana* and *beejotsarga* (ovulation). So in PCOS, *Shatapushpa Taila* regulates ovulation which leads to menses in normal flow.

In *Ayurveda*, many therapies are used for the maintenance of health and eradication of diseases. *Basti* is an important therapy among them. *Basti* works in the region of the colon, but its impact is far reaching and deep. It is instrumental in bowel regularity, joint support, treating gastric problem, nervous system support, nourishes reproductive system, and healthysleep patterns. *Basti* promotes overall well-being and a healthy glow. *Matra Basti* is a type of *Snehan Basti* and it is highly praised because it can be given any time without causing complications.

*Artava Kshaya* is caused by *Avarana* by *Doshas* like *Kapha* or *Vata* or *Kapha-Vata*. *Vata* is the cardinal factor because *Pitta* and *Kapha* are immobile in nature. It is only the vitiated *Vata Dosha* that carries the *Pitta* and *Kapha Doshas* along with it to cause the diseases. If the *Vata* Humor alone is under control, then the chances of gaining ill-health is much reduced.

*Vata* is the bio-energy responsible for all voluntary & involuntary activities of the body. In normal or physiological states *Vata Dosha* is responsible for all important functions of the body like heart beats, inspiration and expiration, peristaltic movements, musculo-skeletal movements, urination, defaecation, menstrual discharge, semen ejaculation and even delivery process. *Basti* is useful for the treatment of vitiated *Vata*[^17]. The tree is nourished when the water is regularly sprinkled at its roots. The tree always remains healthy and green. It will be enriched with attractive green leaves, and timely appearance of flowers and fruits.
Similarly when the *Guda* (anus and large intestine, colon) is sprinkled with *Anuvasana Basti*, all the *Shiras* (veins or vessels carrying the nutrition) will get nurtured and the body as a whole will be nourished. All the *Dhatus* (tissues) including *Shukra* or semen will be nourished with enriched qualities. People who don’t have progeny will be blessed with kids following the nourishment of *Shukra* tissue by *Anuvasana Basti*. So, *Basti* is helpful in preventive & curative aspect.

According to *Acharya Parashara*, He said *Guda as Sharira Mula* because it’s *Shiras* and *Dhamanies* spreads all over the body.[18] It exerts local as well as systemic effect. As per above context, *Basti* is the useful treatment for *Vata* and it also enhances the function of *Purisha*[19] because one of the function of *Purisha* is ‘Anila Anala Dharana’, so in this way *Basti* corrects *Agni Dushti*. *Matra Basti* also nourishes all the *Dhatus*. In this way *Matra Basti* with *Shatapushpa* oil works on *Artava Kshaya* by correcting *Agni Dushti*, nourishing all *Dhatus* and treating the mobile *Dosha* i.e. *Vata Dosha*. As per modern appraise, any drug given via rectal route absorbs through mucosal layer of rectum and enters into systemic circulation. Entering into Gastro Intestinal Tract (GIT), *Basti* stimulates Enteric Nervous System (ENS) and generates the stimulatory signals for Central Nervous System (CNS) as ENS resembles CNS.[20,21] These signals stimulate endogenous opioids present in GIT, mainly β-endorphin, which exerts the inhibition of gonadotropin releasing hormone release.[22] Thus, *Basti* given in the patient of PCOS regulates Hypothalamic-Pituitary-Ovary axis which results into normalization of ovarian cycle and menstrual cycle too. Parasympathetic activity may be responsible for the function of *Apana Vata*. When *Basti* given through rectum, it may stimulate the parasympathetic nerve supply, which in turn helps for development of follicles and release of ovum from the ovary. It can be administered at all times, in all seasons without any strict regimen in *Ahara* and *Vihara* and is harmless.

*Shatapushpa* exhibit phytoestrogenic activity. The main action of phytoestrogen is due to their adaptogenic activity. They can be beneficial in both hyper estrogenic and hypo estrogenic state in the body. Thus they may have mixed estrogenic and anti-estrogenic action depending on target tissue, that’s why it works in amenorrhea and menorrhagia too as described by *Maharshi Kashyapa*. A second mechanism for action of phytoestrogen may be their ability to effect the endogenous production of estrogen. The pituitary gland releases gonadotrophins that stimulates estrogen synthesis in the ovaries. This may enhances ovulation and may be effective in the management of infertility.
The beauty of Basti is its multi-dimensional nature. It can be highly useful in preventing many diseases and thus can be administered in healthy individuals. Its role in healing many psycho-somatic disorders is unparalleled by any other medicines or treatments. For all these conditions especially in case of constipation, lower backache, gout, rheumatism, sciatica, arthritis, nervous disorders, headache, emaciation, muscular atrophy, etc. Basti is useful. This is why Basti is considered as the most proactive therapy of Panchakarma and in Ayurveda it is regarded as the treatment above all or the total treatment.

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<th>Symptoms of pcos through ayurvedicprospective</th>
<th>Prakopit dosha</th>
<th>Chikitsa</th>
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<tbody>
<tr>
<td>1. Menstrual irregularity (oligomenorrhea/amenorrhea-artava kshaya; menorrhagia-asrugdar)</td>
<td>Vata</td>
<td>Basti is not only best for vata disorders it also equally effective in correcting the morbid pitta, kapha and rakta because pitta, kapha are dependent on vata as it governs their functions. That’s why acharya charaka considered basti as “ardha chikitsa” or “poorna Chikitsa”</td>
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<tr>
<td>2. Obesity (sthaulya)</td>
<td>Vata, kapha</td>
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<tr>
<td>3. Acanthosis nigricans (nilika)</td>
<td>Vata, pitta</td>
<td></td>
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<tr>
<td>4. Acne (pidika)</td>
<td>Vata, kapha, rakta</td>
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<td>5. Hirsutism (keshlomasmashru dosha)</td>
<td>Vata</td>
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CONCLUSION
Having regular menstrual cycles is a sign that important parts of the body are working normally. Keeping view on the above said facts it can be concluded that Matra Basti with Shatapushpa Taila leading to normal Rajah Pravritti (regularizing menstruation) and Beeja Nirmana (ovulation) by treating endocrinal and nervous system function and shows multifactorial action. On this basis, Matra Basti therapy with Shatapushpa oil can be supposed an effective option in the management of PCOS.

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