

## SHODHANA IN PCOS-RELATED INFERTILITY

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## ABSTRACT

Infertility is the inability to conceive in one or more years of regular unprotected coitus, and polycystic ovarian syndrome is a leading cause. Based on the pathogenesis, it is a *Vata-Kaphaja Vyadhi* with improper Agni. Symptomatically, PCOS is correlated to *Artava-Kshaya* and *Pushpaghni Jataharani*. *Artava-Kshaya* suggests *Artavavaha Srotodushti*, and *Pushpaghni Jataharani* refers to anovulatory cycles. Likewise, matured ovarian follicles are not expelled but converted to multiple cysts in PCOS. Hence, the management should be oriented in Agni Deepana and remove Srotosanga, for which Shodhana is considered the best. As there is *Dushti* in *Kapha*, *Rasa*, and *Meda*, *Vamana Karma* is indicated, followed by *Virechana Karma* for balancing the *Pitta* and *Agni Deepana* for *Uttarottara Dhatu Poshana* and *Vatanulomana* for correcting *Apana Vayu* aiding in the expulsion of *Artava*. *Shodhana* also improves the functioning of the Hypothalamo-Pituitary-Ovarian axis. Thus, PCOS-related infertility can be managed with *Shodhana*, *Shamanoushadhi*, and lifestyle modifications.

**Keywords:** *Artava Kshaya*, Infertility, PCOS, *Pushpaghni Jataharani*, *Shodhana*.

## INTRODUCTION

In today's fast-growing civilized era, infertility is one of the significant concerns that stop the pace of the world. Nowadays, people seem so centered around social media and junk food consumption that they don't even spend a few minutes of their daily routine to maintain a healthy lifestyle. This ultimately ends up causing various lifestyle disorders, and one such crisis of greater prevalence is infertility. It is defined as the failure to achieve pregnancy after one or more years of regular unprotected coitus. <sup>(1)</sup> It can be due to various reasons, including those from the side of either of the partners or both of them. It is of two types: Primary infertility and Secondary infertility. The one in which the female has never conceived before is termed Primary infertility, and the one in which there is a history of previous pregnancies but fails to create subsequently is termed Secondary infertility. <sup>(2)</sup> According to *Acharya Charaka*, *Vandhyatva* (Infertility) is of 3 types: *Vandhya*, *Apraja*, and *Sapraja*. *Vandhya* refers to absolute sterility due to the congenital absence of the uterus or *Artava*, i.e., the one due to incurable congenital or acquired abnormalities. *Apraja* refers to the type of infertility in which a woman conceives only after the treatment, whereas *Sapraja* is the one in which the woman. However, she is in her reproductive age and is unable to cope after giving birth to one or more children. <sup>(3)</sup> According to *Harita Samhita*, *Vandhyatva* is of 6 types. According to him, a lady never conceives if she is in her *Balya Avastha*, if there is any *Garbhakosha Bhanga*, or if she has *Dhatukshaya*. The other varieties mentioned are *Kakavandhya*, *Anapatya*, *Garbhasravi*, *Mritavatsa* and *Balakshaya*. *Kakavandhya* refers to the inability to conceive after giving birth to one child, whereas *Anapatya* is the one without a history of any previous childbirth, i.e., primary infertility. *Garbhasravi* is due to repeated abortions, *Mritavatsa* is due to repeated stillbirths, and the last one is *Balakshaya*, which is expected to lack the strength of *Garbhashaya* (Uterus). <sup>(4)</sup> According to *Acharya Sushruta*, the significant factors responsible for the conception of healthy progeny are *Ritu*, *Kshetra*, *Ambu*, and *Beeja*. <sup>(5)</sup> *Ritu* can be considered as the fertile

period of the lady, *Kshetra* refers to her healthy *Yoni* (Reproductive tract) and *Garbhashaya* (Uterus), *Ambu* is the supply of proper nourishment, and *Beeja* is the presence of healthy ovum and sperm. The *Shat Garbhakara Bhavas*, which include factors from mother, father, *Atma*, *Satwa*, *Satmya*, and *Rasa*, also play a vital role in the development of a progeny. <sup>(6)</sup> Abnormality in any of the following can end up causing *Vandhyatva* (Infertility). The other causes of *Vandhyatva* (Infertility) include *Yoni Pradosha*, which is the disease that causes various *Yoni Vyapats* and abnormalities in *Artavavaha Srotas*. One such condition that has now become a crucial crisis in society, causing infertility, is polycystic ovarian syndrome. It is a common endocrinal disorder seen in women. It affects around 4% -20 % of women worldwide. <sup>(7)</sup> The number of cases reported every year is alarmingly increasing. The rising trend of prevalence of the disease is mainly due to the uncontrolled intake of junk food and living a sedentary life with wrong lifestyle practices.

### AIMS AND OBJECTIVES:

1. To understand the significant pathogenesis and symptomatology of PCOS-related Infertility in terms of *Ayurveda*.
2. To study the significance of *Shodhana* over *Shamana Chikitsa* in PCOS-related Infertility.

### METHODOLOGY:

The literary data was collected from various classical textbooks and scientific articles and then analyzed regarding the aims and objectives.

### Analysing Pathogenesis and Symptomatology of PCOS:

Polycystic Ovarian Syndrome is a type of syndrome that commonly includes symptoms like oligomenorrhea, infertility, hirsutism, weight gain, and acne, which are mainly due to the condition of androgen excess and ovary dysfunction. Hence, the management should be aimed at correcting menstruation, lowering body weight, reducing insulin levels, and treating other associated symptoms like acne and hirsutism. Unfortunately, at times, it is a very dreadful disease condition as it can even end up causing psychological stress issue due to the social

stigma in society. So, early diagnosis and effective management of the same is a need of the hour in the current scenario. There is no direct correlation available in classics for PCOS. Based on the symptoms, it can be considered as *Artava Kshaya* and *Pushpaghni Jataharani*. *Pushpaghni Jataharini*, according to *Acharya Kashyapa*, is characterized by anovulatory cycles, and the lady presents with hairy cheeks. But its prognosis is considered as *Sadhya* (Curable).<sup>(8)</sup> Similarly, when we look into the pathogenesis of PCOS, the ovary fails to expel the matured ovarian follicles, which then transform into multiple cysts. This is mainly due to the imbalance of *Agni* and *Kapha Dushti*. As the ovulation gets delayed, it, in turn, slows the menstruation, and the endometrial thickening increases. *Vata* is the primary factor responsible for *Artava Nishkramana Kriya* (Ovulation & Menstruation)<sup>(9)</sup>; hence, it must be corrected. Therefore, we can conclude that PCOS is a *Kapha Vata Pradhana Vyadhi* based on pathogenesis. According to contemporary science, the hypothalamic-pituitary-ovarian axis imbalance causing hormonal variation, which is responsible for the delay of ovulation, is another causative factor for the syndrome.<sup>(10)</sup>

**Application of Shodhana Karma:** *Shodhana karma* (Purification therapy) is the best treatment for boosting *Agni* and improving the body's metabolism. According to *Acharya Sushruta*, *Artava Kshaya*, and *Vandhyatva* (Infertility) are caused by *Artava Vaha Srotodushti*.<sup>(11)</sup> Medicines given internally for the intention of *Shamana Chikitsa*, when given without the administration of proper *Shodhana Karma* (Purification therapy), will be in vain because of this *Srotosanga*. Hence, *Srotovishodhana*, by clearing the *Margavarodha* (Obstructed channels), is very important in resolving this. Among the *Panchashodhana* (5 Purificatory procedures) procedures, though the other equally efficient karmas like *Basti* (Enema) are indicated, *Vamana* (Emesis) and *Virechana* (Purgation) are considered superior in achieving the *Srotomarga Shudhi*, as they can serve the purpose even with a single session. Hence, *Vamana Karma* (Emesis) followed by *Virechana karma* (Purgation)

can be advocated in such conditions to address the same.

*Vamana Karma* (Emesis) is the best therapy for eliminating *Kapha Dosha*.<sup>(12)</sup> As PCOS is a metabolic disorder, *Vamana Karma* (Emesis) can be administered to increase the metabolism of the body. The *Agni Vaishamyata* in PCOS can lead to *Dushti* in *Dhatu* like *Rasa*, *Rakta*, and *Medas*, which is responsible for the causation of insulin resistance, acne vulgaris, acanthosis nigricans, weight gain, etc. When administered correctly, *Vamana Karma* (Emesis) helps improve all 13 varieties of *Agni*, including the *Jatharagni* and *Dhatwagni*. It thus enhances the proper nourishment of all the seven *Dhatu*s, one after the other.<sup>(13)</sup> *Artava* is the *Upadhatu* of *Rasa*, and *Vamana* (Emesis) is the treatment of choice for *Rasa Dushti*,<sup>(14),(15)</sup> thus it also clears the *Artavavaha Sroto Dushti*. Also, choosing the right drug has its relevance right from the *Poorvakarma* for *Vamana* (Emesis). *Snehapana*, in such cases, can be done by administering drugs like *Murchita Tila Taila*, *Phala Sarpi*, *Sukumara ghrita*, *Varunadi ghrita* etc, in *Arohanakrama* after the attainment of *Samyak Snigdha Lakshanas*, *Bahya Snehana* in *Vishrama Kala* can be done with any *Vatahara Taila* like *Murchita Tila Taila*, *Shudha Bala Taila* etc. *Madanaphala* is the best drug of choice for *Vamana Karma* (Emesis) irrespective of the *Dosha* involvement, as it is *Sarva Gada Avirodhi* and is widely used in practice.<sup>(16)</sup> *Virechana* (Purgation) helps in regulating the functioning of *Pitta*.<sup>(17)</sup> Hence, it is beneficial in managing the factors caused mainly by *Dushita Pitta*, like acne vulgaris, irregular menstruation, hair fall, acanthosis nigricans, increased testosterone, etc. Also, with *Virechana* (Purgation), the *Apana Vayu* gets corrected, which helps in the normal expulsion of *Artava*. Hence, *Vamana* (Emesis), followed by *Virechana* (Purgation), can control and balance all three *Doshas* simultaneously and address every symptom of PCOS. After the conduction of *Vamana* (Emesis), for the purpose of *Virechana* (Purgation), *Abhyantara*, *Bahya Snehana* (Oleation), and *Swedana* (Sudation) can be done using the drugs mentioned above accordingly. *Virechana* (Purgation)

can be done with drugs like *Trivrit Lehya* along with *Draksha Swarasa* or with *Gomutra* if required, as it helps in the expulsion of *Kapha* as well. Other drugs of choice are *Gandharvahastadi Eranda Taila* with milk, *Aragwadha Phala Majja*, *Abhayadi Modaka*, or *Avipatti choorna* with *Ushnodaka*, etc, in the correct quantity depending upon the *Agni* and *Koshtha*.

**Application of Shamana Chikitsa:** Once the *Samyak Shudhi* is attained, one should always follow the *Samsarjana Krama* according to the *Shudhi Prakara*, after which the *Shamanoushadhi* (Oral medications) can be started. *Shamana Chikitsa* (Palliative management) can include the line of management for *Gulma*, *Sthoulya*, *Prameha*, *Medo Roga*, etc., according to the presentation of the symptoms. Drugs like *Varunadi Kashaya*, *Sukumara Kashaya*, *Saptasara Kashaya*, *Kanchanara Guggulu*, *Triphala Guggulu*, *Punarnavadi Guggulu*, *Rajapravartini Vati*, *Ashokarishta*, etc can be given according to the condition. *Shamana Snehapana* can also be recommended by giving drugs like *Sukumara ghrita* or *Varunadi Ghrita* once the *Agni* is normalized. *Basti Karmas* (Enema Therapies) like *Yapana Bastis* and *Uttara Bastis* are also beneficial in treating Infertility. However, the success rate is high once it is done after the conduction of *Vamana* (Emesis) and *Virechana* (Purgation).

#### **Importance of Practicing Pathya Ahara and Vihara After Shodhana:**

Alongside curing the disease, maintaining the healthy state thereafter is also important. Lifestyle modification has an inevitable part in the management of polycystic ovarian syndrome. Even though *Shodhana* (Purification therapy) and *Shamana Chikitsa* (Palliative treatment) are correctly done, choosing proper *Pathya Sevana* through *Ahara* (Diet) as well as *Vihara* (Regiments) is also essential for sustaining the benefits throughout the lifetime. Food that is wholesome, warm, and light can be included in the diet, along with the consumption of vegetables and adequate water intake, while oily, fried, and junk food needs to be avoided altogether. Eating habits should also be improved, like avoiding *Adyashana*, *Anashana*, *Alpashana*, *Bhuktasyopari Bhojana*, etc., and instead taking *Matravat Ahara* at the right time must be followed. Physical activities like regular

exercise, yoga, and daily walking can be incorporated into the daily schedule. This helps in maintaining a healthy HPO axis and aid in weight reduction.

## **DISCUSSION**

### **Relevance of Shodhana Karma:**

*Shamanoushadhi* (Oral medication) is effective when it is administered after *Shodhana Karma* (Purification therapy). In the field of *Ayurveda*, *Shodhana Karma* (Purification therapy) has a unique and incomparable role. It is the *Karma* by which the vitiated *Doshas* are flushed out permanently from the body and hence can prevent the recurrence of the *Vyadhi*.<sup>(18)</sup> In the case of Infertility, according to the classics, *Shodhana Karma* (Purification therapy) is considered the critical *Poorvakarma* for *Vajeekarana Chikitsa* (Aphrodisiology) because these therapies, when done in a *Malina Shareera* will be in vain as if we are trying to dye a filthy and dirty piece of cloth.<sup>(19)</sup> *Shodhana* helps in imparting *Bala*, *Pushti*, *Apatya*, and *Vrishata*, and hence *Vrishya Karma* (Aphrodisiology) done after *Shodhana* will benefit him with *Brimhana* and also improves the *Bala*.<sup>(20)</sup> For the proper effectiveness of *Vajeekarana* (Aphrodisiology), factors like *Agni* and the proper formation of *Sukra* and *Artava* are crucial. *Ahara Rasa* is converted to *Rasa Dhatu* by *Jatharagni*. When there is *Jatharagnimandya*, this conversion gets hampered and forms *Ama*.<sup>(21)</sup> Similarly, the *Sukra Dhatu* is formed later from the *Rasa Dhatu*. The flawless conversion of *Rasa* to *Rakta*, *Rakta* to *Mamsa*, *Mamsa* to *Meda*, *Meda* to *Asthi*, *Asthi* to *Majja*, and finally *Majja* to *Sukra* is achieved by the proper functioning of *Dhatwagni*. In the case of PCOS, *Artava Vaha Sroto Dushti* is noted, and *Artava* is the *Upadhatu* of *Rasa Dhatu*. The formation of *Rasa* to its *Upadhatu Artava* requires the unimpaired action of *Rasa Dhatwagni*. *Bhootagni*, in its normal state, is very important for the absorption of medicines. *Shodhana Karma* (Purification therapy) does the kindling of all 13 types of *Agni* and thus helps form healthy *Sukra* and *Shonita*. Also, when we look into the *Sukravaha Sroto Dushti Lakshanas*, Infertility is one of the symptoms caused by it.<sup>(22)</sup>

Hence, the *Chikitsa* explained by *Acharya Charaka* is nothing but the application of *Shodhana*.<sup>(23)</sup> *Acharya Chakrapani* clarifies it by stating that *Vamanadi Shodhana Karma* (Purification therapy) must be administered according to the *Kala* to improve the quality of the progeny of even an average healthy individual.<sup>(24)</sup> This shows the importance of *Shodhana* (Purification therapy).

### **Role Of Vamana & Virechana in Improving Fertility:**

In the management of *Artavakshaya*, *Acharya Sushruta* has advised administering *Samshodhana Karma* (Purification therapy) with *Agneya Dravyas* like *Tila*, *Masha*, *Sura*, *Shukta* etc., and *Acharya Dalhana* comments that here *Samshodhana* refers to *Vamana Karma* (Emesis) as by the application of *Vamana*, *Saumya Dhatus* get depleted and helps in the increase of *Agneya Dhatus* in the *Shareera*.<sup>(25)</sup> Thus, it improves the production of the *Artava Dhatu*. Meanwhile, according to *Acharya Chakrapani*, *Vamana* (Emesis) and *Virechana* (Purgation) must be advocated to attain *Urdhwa* and *Adha Shareera Sroto Shudhi*.<sup>(26)</sup> *Vamana Karma* (Emesis) is considered the *Shreshtha Oushadhi* for balancing *Kapha Dosha* and thus helps in its normal functioning.<sup>(27)</sup> Well balanced *Kapha Dosha* is responsible for *Bala* and fertility.<sup>(28)</sup> *Vamana* (Emesis) does the *Srotovishodhana* and improves the *Agni*, which improves the bioavailability of a drug and helps in the effectiveness of the *Shamanushadhi* (Oral medications) that is given after *Shodhana*. As discussed earlier, in the pathogenesis of PCOS, there is *Srotosanga*. *Rakta Dhatu* is not formed properly due to the *Strotorodha* in *Rasavaha Strotas*. This will end up in the excessive formation of *Rasa Dhatu Mala*, i.e., *Kapha Mala*.<sup>(29)</sup> Hence, to remove this excessively formed *Kapha* from the body and remove *Strotorodha*, *Vamana* (Emesis) is the best treatment. According to *Acharya Sharngadhara*, *Pitta Dosha* is responsible for the *Paka* of the *Dhatus* from *Rasa* to the formation of *Sukra* in males and *Raja* in females.<sup>(30)</sup> *Virechana* (Purgation) is considered the best medicine for balancing *Pitta Dosha* and maintaining normal functions.<sup>(31)</sup> According to *Acharya Kashyapa*, *Virechana* helps in the *Shodhana* of all the *Dhatus*, and it also helps improve the functioning of the *Beeja*, i.e., *Sukra*.<sup>(32)</sup> It is believed

that the gut secretes many hormones, enzymes, and neuropeptides that *Virechana* can rectify and thus improve the functioning of the distal part of the body. Vasoactive intestinal polypeptides are widely present in the CNS, in bipolar neurons of cortex spinal ganglion cells, and the hypothalamus, and they regulate endocrine function through the hypothalamus. Somatostatin is yet another polypeptide in the central nervous system; it acts as a neurotransmitter, whereas in peripheral tissues, it regulates endocrine and exocrine secretion and modulates motor activity in the gastrointestinal tract. *Virechana* (Purgation) may enhance the amount of these neuropeptides and thereby rectify the endocrine and exocrine functions.<sup>(33)</sup>

### **Drug Selection for the Management through Shodhana:**

*Snehapana* can be advised with drugs that have *Vatakaphahara* action, like *Sukumara Ghrita* or *Varunadi Ghrita*, which has *Medohara* action and does *Kapha Vata Harana*.<sup>(34)</sup> *Murchita Tila Taila* or *Ksheerashatpala Ghrita* can also be used when the target is mainly *Vata Dosha* and *Amapachana*.<sup>(35)</sup> *Sneha Yogas* like *Sukumara Ghrita*, *Varunadi Ghrita*, *Ksheerashatpala Ghrita*, etc., are specifically indicated for *Gulmaharana*.<sup>(34),(36),(37)</sup> After the attainment of *Samyak Lakshanas*, *Bahya Snehana* can be done with any *Vatahara Taila* like *Murchita Tila Taila* followed by *Bashpa Swedana*. *Vishramakala* for *Vamana* (Emesis) should be planned for one day, and the patient should take *Kapha Utkleshakara Aharas*<sup>(38)</sup> and in *Virechana* (Purgation) for three days with *Kapha Avridhikara Aharas*.<sup>(39)</sup> *Vamana* (Emesis) is commonly conducted with *Madanaphala* as it can be indicated for all diseases and is *Anapayitva* (without causing complications)<sup>(40)</sup>. *Virechana Karma* (Purgation) can be given with *Trivrit Lehya* as it is *Sukha Virechya*, along with *Draksha Swarasa* for *Pitta Pradhana Kaphaharana* and in cases where there is more of *Kapha* predominance or with *Medo Avarana*, *Trivrit Lehya* can be indicated along with *Triphala Kashaya* or *Gomutra*. In the patients who have presented with symptoms of weight loss and *Vata Pradhanata*, the drug of choice could be *Gandharvahastadi Eranda Taila* or *Nimbamritadi Eranda Taila* with *Ksheera* (milk) or *Ushna Jala* (water). *Snigdha Virechana* is always ideal when there

is so much *Rukshata* (Dryness) and constipated bowel movements noticed in the patient. <sup>(41)</sup> The *Matra* of each drug should be planned accordingly after proper examination of Agni and Koshttha.

## CONCLUSION

Polycystic Ovarian Syndrome (PCOS) presents itself in the form of a group of symptoms; hence, addressing every symptom is a must to reverse it. The integrated approach of *Shodhana* (Purification therapy), *Shamana* (Palliative treatment), and lifestyle modifications is the best to tackle this. Hence, assessing the symptoms, diagnosing the causative factor, and starting management at the right time by choosing the proper medications can always help in regaining the fertility of a female. Alongside correcting the ailments, educating the patients on the importance of *Nidana Parivarjana* (avoiding the causative factors) by improving their lifestyle is also inevitable. According to *Acharya Charaka, Preeti, Bala, Sukha, Vritti, Yasha*, etc., a couple is brought about by their children. <sup>(42)</sup> Hence, acquiring a good progeny is considered auspicious and a blessing to a family. Also, an eminent and wise population is the backbone for the development of a country and a healthy society.

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