

ETIOPATHOGENESIS OF PCOS IN COGNATION TO SHATKRIYAKALA: A REVIEW

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ABSTRACT

The term "Kriya Kala" refers to recognizing the stages of disease progression, which is often compared to pathogenesis. It emphasizes the timing of treatment or intervention during the manifestation of a disease. *Acharya Susruta*, in the 21st chapter of *Sutrasthana*, elaborated on the concept of *Shatkriyakala*, which includes six stages: *Sanchaya*, *Prakopa*, *Prasara*, *Sthansamshraya*, *Vyaktavastha*, and *Bhedavastha*. "Shat" means six, "Kriya" means action or treatment, and "Kala" means time or period. Hence, *Shatkriyakala* refers to the appropriate periods for taking action or treatment. *Acharya Sushruta* has described 'Shat Kriyakala' for the development of any disease which seems to be more logical and scientific in considering etiopathogenesis of PCOS according to *Ayurveda*. Here, a humble attempt is being made to describe pathogenesis of PCOS on the basis of 'Shat Kriyakala'. There are few research completely based on PCOS. Many of Ayurvedic researchers discuss this disease in different types of *Vandhyatva* and *Aartavdushti*.

KEYWORDS: *Shat*, *kriya*, *kala*, PCOS, *Aartavdushti*.

1. INTRODUCTION

The primary factors in the development of a disease, according to *Ayurveda*, are the *Doshas* and *Dushyas* (body elements).^[1] If a person does not receive treatment, the imbalanced *Doshas* continue to progress, leading to different stages of disease development. As the *Doshas* become aggravated, they begin to affect other bodily elements, ultimately resulting in disease. Therefore, a thorough understanding of *Shatkriyakala*^[2] (the six stages of disease progression) is crucial for effective treatment and healing. The rise of new diseases worldwide is largely attributed to modern sedentary lifestyles, pollution, and unhealthy eating habits. These factors, along with the body's inability to maintain internal balance, contribute to the development of illnesses. *Acharya Sushruta's* six stages of *Shat Kriyakala* offer a detailed understanding of the state of *Doshadushti* (vitiating of doshas) and the progression of disease from its onset. This key *Ayurvedic* concept not only explains the stages of disease manifestation but also provides guidance for appropriate treatment plans.

Shatkriyakala described by *Acharya Sushruta* in 6 stages of pathogenesis. These are *Sanchaya*, *Prakopa*, *Prasara*, *Sthansamshraya*, *Vyakti*, *Bheda*.^[3] *Sanchaya* is the stage of accumulation of *doshas* into their pristine places while *prakopa* is the stage in which *doshas* are vitiating in their pristine places but in *prasara stage* vitiating *doshas* migrate out of their pristine places. *Sthansamshraya* is

stage in which *doshas* get lodged into the site of *khavaigunya* and causes *doshas-dushya shammurchana*. Premonitory symptoms of the disease manifest at this caliber. Fifth stage is "Vyakti" in which disease plenarily manifests with all symptoms. The last stage is of *Bheda* i.e. the stage of complications or *asadhyata*. In stages of *sanchaya*, *prakopa* and *prasara* there are symptoms of *doshas* not the symptoms of *vyadhi*. Different *Aharaja* (dietary), *Viharaja* (lifestyle) and *Manasika* (psychological) etiological factors lead to *Kapha-Vata Dosha* vitiating. This *Dosha Prakopa* along with further *Agnimandya* *Nidana* causes vitiating of *Agni*. *Jathragnimandya*, on one hand, leads to the formation of *Ama* (qualitative) which in turn causes *Rasavaha* and *Raktavaha Srotodushti* and along with *Apana Vata Vaigunya Artavavaha Srotodushti* takes place. *Ama* also causes *Dhatwagnimandya* and due to *Dhatu Dushti Utapatti* of *Sarvanga Sarira Lakshana* takes place.

AIM AND OBJECTIVES

To understand the pathogenesis of PCOS with relation to *Shatkriyakala* for diagnosis and management of PCOS

MATERIAL AND METHOD

Review of literature regarding *Shatkriyakala* is collected from *Brihatrayi*, *Kashyap Samhita*, available commentaries on all *samhita* and research articles are also searched from various websites.

Type of study- Conceptual study

1. First Kriyakala (Dosha sanchayavastha)- In PCOS, *Mithya Ahara-vihara*, *Manasika bhavas* including stress and other etiological factors stimulate brain and commences synthesizing or liberating certain biogenic amines. Due to miscellaneous *Nidana* factors, *tridosha* as well as *agni vitiation* ensues, which results in augmentation and accumulation of *kapha* and *vata doshas*. *Kapha Sanchaya Lakshana*- *Gaurava*, *Alasya*; *Sanchita Vata Lakshana* like *Stabdha Koshtata*; and *Sanchita Pitta Lakshana* like *Mandoshmata*⁴. If *Acharya Poorvaka Prakopa* takes place these may not be elicited.

2. Second Kriyakala (dosha prakopavastha) - Aforesaid certain biogenic amines stimulate hypothalamus, pituitary, thyroid and adrenal medulla etc. Due to impairment of *agni*, inopportune digestion of victuals results in engenderment of *Ama annarasa* which may further augment *vitiating kapha*. *Vata Prakopa Lakshana* like *Koshta Toda*, *Sanchara*; *Pitta Prakopa Lakshana* like *Amlika*, *Pipasa*; and *Kapha Prakopa Lakshana* like *Annadweshya* may be elicited.^[5]

3. Third Kriyakala (Prasaravastha)- Stimulation of above verbally expressed glands induce secretion of relinquishing factors or hormones in the blood and biochemical alterations get commenced results increase in GnRH and insulin resistance. *Vitiating rasa dhatu* and *rasagni mandya* causes *Srotodusti*. Progression of the pathological events is ensued by *uttarottara dhatvagnimandya* and *uttarottara vitiation* of *dhatu*s and withall the *upadhatu of rasa Artava* get *vitiating* lead to *artava dushti*. Moreover, circulation of *Ama anna rasa* may further increase *Srotorodha*. *Vimargagamana*, *Atopa Lakshana* of *Vata*; *Arochaka*, *Avipaka* etc. of *Kapha* may be observed.^[6]

4. Fourth Kriyakala (Sthanasamshrayavastha) – Aforesaid, bio-chemical alterations start inducing an organ pathological changes depends upon tissue or cell susceptibility results in increase LH: FSH ratio which leads to Androgen excess in body *Vitiating rasa* and augmented *kapha* along with *vata doshas* engender *dosha dushya sammurchna*. Simultaneously *shukragni* fail to perform their work congruously which is destruction of male hormones results Androgen excess in body. In this *Poorvaroopavastha*, *Medogata Lakshanas* like *Granthi* etc. *Vata Lakshana* like *Angamarda*, *Alasya*, *Agnimandya*, *Apravritti/ Atiprapritti* or *Asamyak Pravritti* of *Rajas*, *Kaphaja Lakshana* like *Manda pravritti* or *Apravritti* of *Rajas*, *Sthoulya Dosha*, etc. may be observed.^[7]

5. Fifth Kriyakala (Vyaktavastha) – Organo pathological changes start developing their various signs and symptoms in different systems of the body i.e. anovulation, poly cystic ovary, hirsutism, acne, alopecia etc. *Doshadushya sammurchna*, if not treated, leads to manifestation of *rupa of Vyadhi* designates as *nastartava*, *prameha*, *vandhyatwa*, *yuvanpidika*, *khalitya* and *sthaulya*.^[8]

6. Sixth Kriyakala (Bhedavastha) - Progression of disease untreated with manifestation of complications results *Dirghakala Anubandha Lakshana*.^[9] eg. Infertility, inordinate corpulence diabetes etc.

Treatment: PCOS is multisystem disorder with heterogeneous clinical features. So, the treatment should also be multidirectional. The primary line of management of PCOS should be symptomatic. This involved cycle regulation for menstrual dysfunction, ovulation induction for infertility, weight reduction in obesity, etc. Ayurveda describes diseases of syndromic origin as '*Rogasamooaha*' and '*Anushangi*'^[10]. Ayurveda aims at the wholistic approach in treatment of any disease. Thus a comprehensive treatment which is *Nidan parivarjan*, *Shodhana* and *Shaman chikitsa* with *Pathya apathya palan* are effective in managing the possible sequel of PCOD.

DISCUSSION

Polycystic Ovary Syndrome (PCOS) can also be correlated with the stages of disease progression described in *Shatkriyakala*. The six stages are *sanchaya* (accumulation), *prakopa* (aggravation), *prasara* (spread), *sthanasanshraya* (localization), *vyakti* (manifestation), and *bheda* (complication). In the *sanchaya* and *prakopa* stages of PCOS, patients may not present with specific symptoms. During this phase, hormonal imbalances begin, especially with insulin resistance and androgen production, but these changes are subtle and do not cause noticeable signs or symptoms. Over time, the metabolic and endocrine disturbances accumulate, preparing for further disruption. After an initial period of lifestyle changes, stress, or other contributing factors (*aagantuja karan*), the *doshas* become *vitiating*, this *vitiating* leads to the *prasara* stage, where the imbalance in hormones starts to affect other systems in the body. While the *doshas* are not yet fully aggravated, minor symptoms such as irregular periods or mild weight gain may start to appear.

In the *prasara* stage, the hormonal disturbances spread and worsen, leading to noticeable symptoms such as irregular menstrual cycles, weight gain, and early signs of hyperandrogenism (like acne or hair loss). As the body's regulatory mechanisms fail to contain the disorder, insulin resistance and hormonal imbalances continue to progress, eventually leading to a diagnosis of PCOS.

In the *sthanasanshraya* stage, the hormonal imbalances localize in the ovaries and other tissues, leading to the formation of cysts and increasing signs of androgen excess. Blood tests may start to reveal elevated levels of androgens, insulin, or other hormones. Symptoms like menstrual irregularity, hirsutism, and weight gain become more pronounced.

The *vyaktavastha* stage is marked by the clear manifestation of PCOS, with visible signs and symptoms

such as multiple ovarian cysts, chronic anovulation, infertility, acne, excessive hair growth (hirsutism), and significant weight gain. Blood tests strongly indicate insulin resistance, and ultrasound confirms the presence of polycystic ovaries.

Finally, in the *bhedavastha* stage, PCOS leads to chronic complications, such as type 2 diabetes, cardiovascular disease, and metabolic syndrome. The hormonal imbalances and insulin resistance become severe, contributing to long-term health issues like endometrial hyperplasia or cancer, severe obesity, and continued reproductive dysfunction. At this stage, medical intervention is critical, and tests like blood sugar levels, lipid profiles, and hormone assays remain abnormal.

CONCLUSION

Shatkriyakala is a fundamental concept in Ayurveda that outlines the stages of disease development, allowing for early intervention and prevention of complications. In the context of Polycystic Ovary Syndrome (PCOS), understanding *Shatkriyakala* helps *Ayurvedic* practitioners to detect imbalances in the *doshas*—*Vata*, *Pitta*, and *Kapha*—at different stages, offering timely and effective treatment. PCOS is a condition marked by hormonal imbalances, irregular menstrual cycles, and cyst formation in the ovaries, often rooted in vitiated *Kapha* and *Vata doshas*. By applying the principles of *Shatkriyakala*, an *Ayurvedic* physician can recognize early signs of *doshic* imbalances, such as digestive irregularities, weight gain, or menstrual disturbances, before they manifest into more severe symptoms like infertility or metabolic disorders. The six stages of *Shatkriyakala*, which include *Sanchaya* (accumulation), *Prakopa* (aggravation), *Prasara* (spread), *Sthana Samshraya* (localization), *Vyakti* (manifestation), and *Bheda* (complication), provide a structured approach to monitor the progression of PCOS. For instance, in the *Sanchaya* and *Prakopa* stages, mild symptoms such as irregular periods or slight weight gain may be evident. At this point, the disease can be managed by addressing lifestyle factors and diet, preventing further progression. As the disease advances through the stages, such as the localization of *doshic* imbalances in the reproductive organs (*Sthana Samshraya*), the treatment becomes more focused, incorporating detoxification therapies like Panchakarma, alongside herbal remedies to balance hormones and regulate the menstrual cycle. By diagnosing PCOS and treating it according to the principles of *Shatkriyakala*, an *Ayurvedic* practitioner can prevent complications such as diabetes, heart disease, and infertility, offering a holistic and personalized treatment plan. This approach empowers the physician to intervene at the right time, ensuring a more successful and sustainable management of PCOS, much before it reaches irreversible stages of pathology. Thus, the application of *Shatkriyakala* in PCOS can guide the practitioner in tailoring treatment plans that align with the stages of disease progression, improving outcomes and patient health in the long term.

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