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SAMPRAPTI BASED APPLICATION OF USAKADI GANA IN POLYCYSTIC OVARIAN DISEASE

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ABSTRACT

Introduction: Polycystic Ovarian Disease (PCOD) is a prevalent endocrine–metabolic disorder among women of reproductive age, characterized by chronic anovulation, hyperandrogenism, insulin resistance, and metabolic disturbances. From an Ayurvedic perspective, PCOD can be correlated to a *Kapha–Meda pradhana Santarpanajanya Vyadhi* associated with *Avarana* of *Apana Vata* and *Artavavaha Srotodushti*. Classical Ayurvedic texts describe several drug groups (*Gana*) targeting metabolic obstruction and *Srotorodha*, among which *Usakadi Gana*, enumerated by *Acharya Susruta*, holds therapeutic relevance in *Kapha–Meda* dominant disorders. **Objective:** The present article aims to evaluate the potential role of *Usakadi Gana* in the management of PCOD based on *Samprapti* (pathogenesis), classical indications, and contemporary scientific insights. **Materials and Methods:** A comprehensive review of classical Ayurvedic texts, primarily *Susruta Samhita*, was undertaken to analyze the composition, properties, and indications of *Usakadi Gana*. Relevant modern literature was reviewed from databases such as PubMed, Google Scholar, and standard gynecology textbooks to understand the contemporary pathophysiology of PCOD. **Results:** The pharmacodynamic

attributes of *Usakadi Gana*, including *Ushna Virya*, *Lekhana*, *Chedana*, *Bhedana*, *Kapha–Medohara* and *Artava-sanjanana* properties, appear suitable for addressing *Agnimandya*, *Srotorodha*, and metabolic dysregulation implicated in PCOD. **Conclusion:** *Usakadi Gana* demonstrates significant conceptual potential in addressing the underlying *Samprapti* of PCOD. Its integrative application warrants further clinical and experimental validation.

KEYWORDS: Polycystic Ovarian Disease, Usakadi Gana, Santarpanajanya Vyadhi, Kapha–Meda, Artavavaha Srotas.

INTRODUCTION

Polycystic Ovarian Disease (PCOD) is one of the most common endocrine disorders affecting women of reproductive age and is characterized by chronic anovulation, hyperandrogenism, and polycystic ovarian morphology. It results from disruption of normal follicular development during the menstrual cycle, leading to the accumulation of multiple immature follicles within the ovaries. PCOD affects nearly one in ten women globally and is the leading cause of anovulatory infertility.[1] According to the National Institutes of Health (NIH), its prevalence ranges from 5% to 26% among women aged 15–49 years, reflecting ethnic and diagnostic variability. In addition to reproductive dysfunction, PCOD is frequently associated with metabolic abnormalities such as Insulin resistance, Obesity, and Dyslipidemia, increasing long-term cardiometabolic risk.[2] Ayurveda emphasizes that substances endowed with specific *Virya*, *Guna*, and *Karma*, when used appropriately, exert targeted therapeutic effects. Classical Ayurvedic literature describes several drug groups (*Gana*) based on shared pharmacodynamic properties for disease-specific management.[3] *Usakadi Gana*, described in the *Susruta Samhita* (*Sutrasthana*), is traditionally indicated in *Kapha–Meda* dominant disorders associated with metabolic dysfunction and *Srotorodha*. Considering the Ayurvedic interpretation of PCOD as a *Santarpanajanya Vyadhi* with *Kapha–Meda* aggravation and *Avarana* of *Apana Vata*, this review aims to evaluate the potential role of *Usakadi Gana* in PCOD by integrating classical Ayurvedic principles with contemporary pharmacological insights.

MATERIALS AND METHODS

Data were sourced from Classical Ayurvedic references like *Sushruta Samhita* focusing on the formulation *Usakadi Gaṇa*. Modern literatures were sourced from databases such as PubMed, Google Scholar and D C Dutta Textbook of Gynaecology.

RESULTS

SAMPRAPTI CORRESPONDING TO PCOD

The heterogeneous pathophysiology of PCOD is fundamentally defined by the co-occurrence of hyperandrogenism and insulin resistance, which are interdependent and contribute to the clinical presentation. This metabolic-hormonal imbalance disrupts the normal feedback mechanisms of the hypothalamus-pituitary-ovarian axis, leading to the characteristic reproductive features like anovulation.

PCOD is fundamentally understood as a *Santarpana Janya Vyadhi* (a disease arising from over-nourishment or metabolic excess). The condition is primarily driven by the aggravation of *Kapha Dosha* resulting from specific lifestyle and dietary factors (*Kapha Prakopaka Nidana*), such as *Atimatra Ashana, Diwaswapna, Avyayama* and *Alasyam*. This behavioral pattern leads to *Jatharagni Mandyam* and the subsequent formation of *Ama*. This *Ama*, along with vitiated *Kapha* and *Meda Dhatu*, causes *Sroto Avaranam* which is especially pronounced in cases of *Atisthoulya*. Due to *Avarana* of *Apana Vayu* by vitiated *Kapha*, so there will be *Nastartava / Artava Adharshana.*

The channel obstruction further deranges the local *Rasa Dhatwagni*, impairing the formation of the vital reproductive *Upadhatu, Artava. Agantu Kapha* affliction of *Sukra Dhatu* causes *Shukra Sanchaya* resulting in androgen excess leads to *Shukramla* [abnormal hair growth]. Beyond metabolic factors, the condition is also influenced by genetic predisposition (*Beeja Dushti* and *Garbhoupaghatakara Bhavas*), where aggravated *Vata Dosha* is thought to cause structural abnormalities in the *Garbhashaya*. Finally, psychological stressors like *Chinta, Shoka, Krodha* which significantly impact the mind-body connection, effectively deranging the functions of the HPO axis and inhibiting the normal flow of *Artava Pravartana Karma*.[4]

USHAKADI GANA

Acharya Susruta has mentioned 37 groups of drugs in 38th chapter of *Susruta Samhita* in 38th chapter of *Sutra Sthana* named *Bhumi Dravya Sangrahaniya Adhyayam* revealed by Lord Dhanwantari. In these, *Usakadi Gana* is 18th group out of 37 mentioned in *Susruta Samhita*. This *Gana* comprises of *Tuttha, Usaka, Sindhava Lavana, Shilajatu,* two types of *Kasisa, Hingu*. This *Gana* pacifies *Kapha* and *Medas.* It is indicated in *Asmari, Sarkara, Mutrakrichra* and *Gulma.* This *Gana* works on *Pakwasayagata Vata* which includes diseases like *Antra Koojana Shoolam, Atopa, Anaha, Mutrakrichra, Trikapradesa Veda*.[5] The properties of ingredients and and therapeutic uses are mentioned in (table 1)

Table 1: Ingredients, their properties and indications.[6]

Sl. No.	Drug Name	Chemical / Latin Name	Guna	Karma	Classical Indications
1	*Tuttha*	Copper sulphate	*Guru, Snigdha*	*Lekhana, Bhedana*	*Arshas, Shvitra, Phiranga Roga, Kushta, Medo roga*
2	*Kasisa* (Two variants)	Ferrous sulphate	*Ushna*	*Artava-sanjanana*	*Mutrakrichra, Shvitra, Ashmari*
3	*Shilajatu*	*Asphaltum punjabianum*	*Yogavahi*	*Bhedana, Chedana*	*Ashmari, Shopha, Kushta, Udara, Arshas*
4	*Usaka*	Natural alkaline soil	—	—	*Traditionally indicated in Kapha–Meda disorders*
5	*Saindhava Lavana*	Sodium chloride	*Laghu, Snigdha*	*Kapha-vilayana, Kapha-chedana*	*Kapha disorders, Agnimandya*
6	*Hingu*	*Ferula asafoetida* Linn.	*Laghu, Snigdha, Tikshna*	*Chedana*	*Gulma, Shoola, Udara, Anaha, Vibandha, Adhmana*

DISCUSSION

Polycystic Ovarian Disease (PCOD) represents a complex endocrine–metabolic disorder characterized by hyperandrogenism, ovulatory dysfunction, insulin resistance, and adiposity. From an Ayurvedic perspective, the clinical constellation of anovulation (*Nastartava*), obesity, and metabolic derangement corresponds to a *Kapha–Meda pradhana Santarpanajanya Vyadhi*, with secondary *Avarana* of *Apana Vata* and *Artavavaha Srotodushti*. This conceptual framework is consistent with classical descriptions of disorders arising from *Kapha* aggravation, *Agnimandya*, and *Meda* accumulation described in the *Brihattrayi*.[7-9]

Usakadi Gana, enumerated by *Acharya Susruta* in *Bhumi-Dravya Sangrahaniya Adhyaya*, comprises drugs predominantly possessing *Ushna Virya*, *Lekhana*, *Chedana*, *Bhedana*, *Kapha–Medohara* and *Shodhana Guna*, making it therapeutically relevant in conditions involving *Srotorodha* and metabolic excess. The indication of this *Gana* in *Asmari*, *Mutrakrichra*, *Gulma* and disorders of *Pakvashaya-gata Vata* indirectly supports its role in diseases involving obstructive and metabolic pathology, which parallels the Ayurvedic *Samprapti* of PCOD.

Shilajatu, a key component of *Usakadi Gana*, is classically described as *Yogavahi*, *Medohara*, and *Kapha-Shamaka*, with proven relevance in *Prameha* and metabolic

disorders.[10] Contemporary biomedical studies demonstrate that purified *Shilajitu* exhibits insulin-sensitizing and antioxidant effects, which are particularly relevant in PCOD, where insulin resistance plays a central pathogenic role.[11,12] The insulin-modulating potential of *Shilajitu* supports its traditional indication in *Meda Dhatu* disorders and aligns with the modern understanding of PCOD as a metabolic–endocrine syndrome.

Kasisa (ferrous sulphate) is attributed *Artava-Sanjanana* and *Ushna Guna* in Ayurvedic texts, indicating its role in restoring menstrual function by correcting *Kapha* induced obstruction of *Artavavaha Srotas*.[13] Iron deficiency and altered iron metabolism have been reported in women with chronic anovulation and menstrual irregularities, suggesting a possible indirect relevance of *Kasisa* in improving ovarian function when judiciously used.

Tuttha (copper sulphate) is described as possessing *Lekhana* and *Medohara* properties, useful in *Kapha–Meda Vriddhi*. Copper plays a recognized role in lipid metabolism and oxidative balance, and altered trace element homeostasis has been reported in PCOS patients, further supporting the rationale for its cautious therapeutic use within classical formulations.[14]

Saindhava Lavana, though mild, exhibits *Kapha-Vilayana* and *Sroto-Vishodhana* actions and is considered *Agni-Deepana* without aggravating *Pitta* when used appropriately.[15] Its inclusion supports digestion, bioavailability, and correction of *Agnimandya*, which is central to the Ayurvedic pathogenesis of PCOD.

Hingu (*Ferula asafoetida*), with its *Ushna*, *Tikshna*, *Laghu* properties and *Chedana karma*, is traditionally indicated in *Gulma*, *Anaha*, and *Vata–Kapha* disorders. Modern pharmacological studies demonstrate antispasmodic, insulin-sensitizing, and lipid-lowering effects of *asafoetida*, which may support metabolic and hormonal balance in PCOD.[16,17]

Collectively, the synergestic effect of *Usakadi Gana* addresses the *Kapha–Meda Avarana*, *Agnimandya*, and *Artava-Dushti* central to PCOD *Samprapti*. The predominance of *Lekhana* and *Artava-Sanjanana Gunas* directly supports the therapeutic goal of restoring ovulatory function by clearing *Srotorodha* and normalizing *Apana Vata Gati*. Thus, *Usakadi Gana* offers a rational Ayurvedic intervention targeting the underlying metabolic and reproductive pathology of PCOD rather than merely providing symptomatic management.

CONCLUSION

Polycystic Ovarian Disease corresponds to a *Kapha–Meda pradhana Santarpanajanya Vyadhi* with *Avarana of Apana Vata* and *Artavavaha Srotodushti* in Ayurveda. *Usakadi Gana*, described by *Acharya Susruta*, possesses *Ushna Virya*, *Lekhana*, *Chedana*, *Bhedana*, *Kapha–Medohara* and *Artava-Sanjanana* properties that address *Agnimandya*, *Srotorodha*, and metabolic dysfunction central to PCOD. Its constituent drugs collectively support normalization of *Apana Vata Gati* and *Artava Pravartana*. Contemporary evidence indicating insulin-sensitizing and metabolic regulatory actions further supports its relevance. Thus, *Usakadi Gana* offers a rational Ayurvedic approach targeting the underlying pathology of PCOD, warranting further clinical validation.

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