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A Conceptual Study On the Role of Shatapushpa Taila Nasya in The Management of Artava Kshaya W.S.R. To Low AMH Levels

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Abstract

Artava Kshaya, described in Ayurveda as a condition of diminished or deficient menstrual function, can be closely correlated with reduced Anti-Mullerian Hormone (AMH) levels, which reflect decreased ovarian reserve and reproductive potential. This condition primarily arises due to Dhatu Kshaya and aggravated Vata Dosha, leading to impaired formation and function of Artava. Clinically, it may manifest as delayed cycles, scanty menstruation, and reduced fertility. Current management options for low AMH are limited, emphasizing the need for alternative approaches rooted in holistic principles. Ayurveda advocates therapies that restore Dhatu Poshana and balance Vata, thereby improving reproductive health. Nasya Karma, an important procedure among Panchakarma, involves administration of medicated substances through the nasal route, which is considered the gateway to the head .This therapy is known to influence Prana Vata and higher regulatory centers. From a contemporary viewpoint, the nasal route offers direct access to the central nervous system via olfactory and trigeminal pathways, potentially impacting neuroendocrine regulation. Since ovarian function is governed by the hypothalamic–pituitary–ovarian (HPO) axis, Nasya Karma may help in regulating hormonal balance and enhancing follicular activity. By correcting Vata vitiation and supporting proper nourishment of reproductive tissues, Nasya Karma may play a significant role in improving ovarian reserve. This article explores Artava Kshaya as the primary framework to understand low AMH and discusses the probable Ayurvedic and modern mechanisms underlying the role of Nasya Karma in its management.

Keywords: Artava Kshaya, Anti-Mullerian Hormone, Dhatu Kshaya, Nasya Karma, HPO axis

1. Introduction

Artava Kshaya, a common menstrual disorder, can be correlated with low Anti-Müllerian Hormone (AMH) levels, reflecting diminished ovarian reserve. Studies report that around 13.5% and 12.95% of women experience oligomenorrhea and hypomenorrhea, which share clinical features with Artava Kshaya and are often seen in low AMH conditions. According to Acharya Kashyapa, Shatapushpa is highly

beneficial in managing menstrual irregularities and infertility. It can be used in forms like churna, kwatha, and taila, with classical texts recommending Shatapushpa Taila in Nasya, Pana, Abhyanga, and Basti. Owing to its Agneya and Artava-janana properties, it may help stimulate ovarian function and support reproductive health in women with low AMH.

As per Acharya Charak "Nasa hi Shiraso Dwaram" which emphasizes that the nose serves as the primary gateway to the head. As ovarian activity is governed by the hypothalamic–pituitary–ovarian (HPO) axis, Nasya Karma, a key procedure of Panchakarma, may exert its effects by influencing the central neuroendocrine system. Through this pathway, it can help regulate reproductive hormones and support ovarian function.

AIMS AND OBJECTIVES

Aim

To critically review the role of Shatapushpa Taila Nasya in the management of Artava Kshaya with reference to low AMH and its influence on ovarian function.

Objectives

- To examine the concept of Artava Kshaya and its association with reduced AMH levels.
- To analyze the therapeutic potential of Shatapushpa Taila Nasya in improving ovarian function and hormonal balance.

MATERIALS AND METHODS

This study is a conceptual literary review based on:

1. Detailed review of Ayurvedic texts including Charaka Samhita, Sushruta Samhita, Ashtanga Hridaya, and Kashyapa Samhita with emphasis on Artava Kshaya, Nasya Karma, and Shatapushpa.
2. Review of contemporary literature on low AMH, ovarian reserve, and menstrual disorders such as oligomenorrhea and hypomenorrhea.
3. Analysis of pharmacological properties of Shatapushpa with respect to its Artava-janana, Vata-shamaka, and Agneya attributes.
4. Review of studies on nasal drug delivery and its influence on the hypothalamic–pituitary–ovarian axis.
5. Conceptual evaluation of Shatapushpa Taila Nasya in improving menstrual function and ovarian activity.

LITERARY REVIEW

- Artavakshaya, as described by Acharya Sushruta, is marked by delayed or absent menstruation at the expected time (yathochita kala adarshanam), reduced menstrual flow (alpartava), and associated pelvic pain (yonivedana). Based on these features, it can be correlated with oligomenorrhea and hypomenorrhea in modern terms. Oligomenorrhea refers to menstrual cycles

occurring at intervals longer than 35 days, while hypomenorrhea denotes unusually scanty bleeding lasting less than two days.

- Acharya Sushruta describes Artavakshaya as an early stage that may advance to complete absence of menstruation (Nastartava). It arises due to vitiation of Vata and Kapha, causing obstruction in the Artavavaha Srotas. This disturbance in menstrual physiology can be correlated with reduced ovarian reserve (low AMH) and may ultimately lead to infertility.
- Ayurveda states that conception requires the proper functioning of Beeja (ovum), Kshetra (uterus), Ritu (fertile period), and Ambu (nutrition). As described by Sushruta, their balance is essential for fertility. Low AMH can be correlated with Artavakshaya and aggravated Vata, indicating reduced ovarian reserve.
- Anti-Mullerian Hormone (AMH) is a specialized glycoprotein hormone produced by the granulosa cells of early-stage ovarian follicles, including pre-antral and small antral follicles. It is widely recognized as a dependable marker for evaluating ovarian reserve, reflecting the remaining quantity of viable follicles and aiding in fertility assessment. Ovarian reserve reflects both the number and quality of primordial follicles, which gradually decrease with advancing age. In younger women, AMH levels may not show a strong relationship with follicle quantity, whereas in women approaching the later reproductive years, a clear correlation is observed between AMH levels and primordial follicle density. Typically, AMH levels begin to decline from around the mid-twenties, indicating a gradual reduction in ovarian reserve over time.
- Folliculogenesis relies on the proper functioning of the hypothalamic–pituitary–ovarian (HPO) axis. The hypothalamus releases gonadotropin-releasing hormone (GnRH) in a pulsatile manner, which regulates the secretion of gonadotropins—follicle-stimulating hormone (FSH) and luteinizing hormone (LH)—from the anterior pituitary gland. These hormones play a crucial role in promoting the development of antral follicles, stimulating the proliferation of granulosa cells, and supporting the maturation of the dominant follicle.
- A low level of AMH, indicating diminished ovarian reserve, can be interpreted in Ayurveda as a Dhatu Kshaya–janya vikara. This condition is associated with aggravation of Vata Dosha due to depletion of dhatus, and is further reflected as Artava Kshaya, signifying reduced reproductive capacity.
- Decreased AMH levels are commonly associated with conditions such as diminished ovarian reserve, premature ovarian insufficiency, advancing reproductive age, and the impact of chronic stress on reproductive health.
- As per Acharya Charak “Nasa hi Shiraso Dwaram” which emphasizes that the nose serves as the primary gateway to the head. As ovarian activity is governed by the hypothalamic–pituitary–ovarian (HPO) axis, Nasya Karma, a key procedure of Panchakarma, may exert its effects by influencing the central neuroendocrine system. Through this pathway, it can help regulate reproductive hormones and support ovarian function.
- Low AMH levels indicate diminished ovarian reserve and irregular ovulation, which can be correlated with Artava Kshaya.. Ayurvedic management includes,Nidana Parivarjana, Swayoni Vardhana Dravyas, Samshodhana Chikitsa,Use of Agneya Dravyas
- Dravyas Samshodhana and use of Agneya Dravyas are beneficial to remove Srotoavarodha and brings up the normal menstrual flow, in Artava Ksnaya, Tikshna Ushna Gunas and Agneya Dravyas are beneficial.

- The Gunas of Shatapushpa are Balya, Deepan, Pachan, Yonivishodhana Artavaajanana, and Beejotsarga.

Mode of action of Nasya karma:

Ayurvedic point of view:

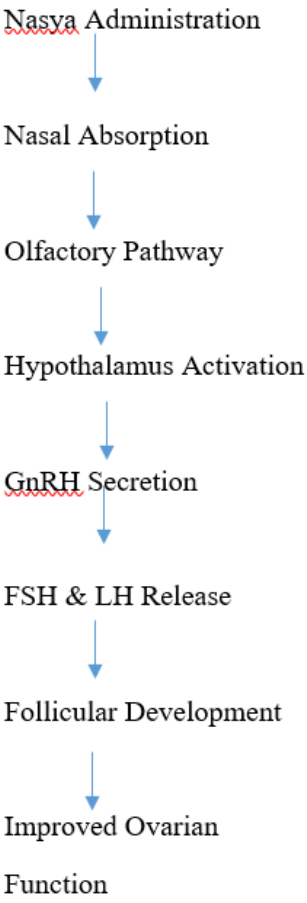
Concept/Authority	Description	Mode of Action of Nasya Karma
Nasya Karma	One of Panchakarma procedures	Eliminates and pacifies vitiated Doshas; acts at root level
Acharya Charaka	Nasa hi Shiraso Dwaram"Nasal route acts as gateway to head	Medicine reaches Shira and removes Doshas
Chakrapani	Ishika analogy	Helps expel deeply seated Doshas from head region
Acharya Sushruta	Shringataka Marma concept	Drug reaches interconnected channels of nose, eyes, ears, and tongue; supports regulation
Acharya Sushruta	Observation of Mastulunga Srava Indicates	Connection between nasal pathway and intracranial structures
Acharya Vagbhata	Systematic explanation	Drug reaches Shringataka, spreads through channels, liquefies and expels Doshas from Urdhvajatru
Indu	Location of Shringataka	Situated in central head region, highlighting its functional importance

Modern Mode of Action of Nasya Karma (Nose-to-Brain & Neuroendocrine Perspective)

Stage	Process	Explanation
1. Drug Administration	Nasal instillation	Medicine is administered through the nasal route, reaching the nasal cavity and mucosal lining.
2. Initial Absorption	Nasal mucosal absorption	Drug diffuses through the mucus layer; small and uncharged molecules pass easily, while larger or

		charged molecules face resistance.
3. Absorption Pathways	Paracellular & Transcellular routes	Paracellular (aqueous): slow, passive diffusion between cells. Transcellular (lipoidal): rapid transport through cell membranes, mainly for lipophilic drugs.
4. Distribution to Marma	Reach to Sringataka Marma	Absorbed drug reaches a central regulatory area (Sringataka), from where it spreads through channels (Srotas).
5. Nose-to-Brain Transport	Neural & vascular pathways	Drug reaches the brain through olfactory pathways and vascular channels due to rich blood supply and large surface area.
6. Intracellular Transport	Axonal transport	Drug enters olfactory neurons via endocytosis and slowly travels to the olfactory bulb
7. Extracellular Transport	Perineural & perivascular pathways	Rapid movement (within minutes) through spaces around neurons and vessels directly to the brain.
8. Olfactory Stimulation	Activation of olfactory receptors	Drug molecules stimulate olfactory neurons in the upper nasal cavity (olfactory epithelium).
9. Brain Activation	Limbic system & hypothalamus	Signals are transmitted to higher centers like the limbic system and hypothalamus.
10. Neuroendocrine Effect	GnRH regulation	Hypothalamic activation regulates pulsatile secretion of Gonadotropin-Releasing Hormone (GnRH).
11. Hormonal Cascade	FSH & LH release	GnRH stimulates pituitary to release FSH and LH.

12. Reproductive Response	Ovarian stimulation	Leads to follicular development, ovulation, and improved ovarian function.
13. Additional Factors	Head position & retention	Keeping the head lowered and retaining medicine increases contact time, enhancing absorption.
14. Circulatory Support	Perivascular pump	Arterial pulsations aid in drug movement and distribution



DISCUSSION

Low Anti-Mullerian Hormone (AMH) indicates reduced ovarian reserve and impaired follicular development, which can negatively affect ovulation and fertility. In Ayurveda, such conditions can be understood under the concept of Artava Kshaya, where depletion of Dhatus along with vitiation of Vata leads to reduced or disturbed Artava formation. Women with low AMH commonly experience irregular or scanty menstruation, delayed cycles, and difficulty in conception, which closely resemble the clinical features of Artava Kshaya. Nasya Karma is considered an important therapeutic approach for disorders related to the female reproductive system because the nasal route is believed to influence the functions of

the Shirah and higher regulatory centers. Administration of medicine through the nose may help stimulate the neuroendocrine pathways connected with the hypothalamus and pituitary gland, thereby supporting proper functioning of the Hypothalamic–Pituitary–Ovarian (HPO) axis. Balanced activity of this axis is essential for follicular maturation and timely ovulation.The olfactory pathway has a close relationship with the limbic system and hormonal control centers of the brain. Proper administration of Nasya along with local massage and fomentation may enhance absorption and therapeutic action of the medicine. This may help regulate hormonal secretion and improve ovarian response in women with anovulatory cycles and low AMH. Shatapushpa Taila may be useful be for Nasya, Which possesses properties like Vata-Kapha Shamana, Artava Janana, and Garbhashaya Poshaka. Its Ushna and Tikshna properties help in clearing Srotorodha and promoting normal Artava Pravritti. By improving circulation and supporting ovarian activity, Shatapushpa Taila Nasya may help in follicular growth, ovulation, and maintenance of reproductive health in women suffering from low AMH and Artava Kshaya.

Conclusion:

- Recent literature shows a growing rise in infertility cases, with diminished ovarian reserve and low Anti-Müllerian Hormone (AMH) levels being important contributing factors affecting female reproductive capacity.
- In Ayurveda, conditions associated with low AMH can be understood under the concept of Artava Kshaya, where the quantity and quality of Artava are reduced due to aggravated Vata and depletion of body tissues (Dhatu Kshaya).
- Ayurvedic classics describe that healthy reproductive function depends upon balanced Doshas, proper nourishment of Dhatus, and normal formation and flow of Artava.
- Conventional treatment options for poor ovarian reserve often provide limited outcomes, especially in women who do not respond adequately to ovulation induction therapies.
- Ayurvedic management aims at restoring systemic balance and improving reproductive health through holistic therapies and lifestyle-based interventions.
- Literary findings suggest that Nasya Karma with medicated oils may support ovarian function by influencing neuroendocrine pathways, improving blood circulation, and enhancing nourishment to reproductive tissues.
- Some published observations have reported improvement in ovarian activity and chances of natural conception following Ayurvedic treatment; however, the currently available evidence is still limited.
- Therefore, more scientifically designed studies with larger sample sizes are needed to confirm these outcomes and to develop standardized Ayurvedic treatment protocols for managing Artava Kshaya associated with low AMH.

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