



A CASE SERIES ON CORRELATION OF HARITA'S CONCEPT OF VATA-AVARITA KSHIRAVAHA NAÐI WITH HYPERPROLACTINEMIA ASSOCIATED INFERTILITY - AN AYURVEDIC-MODERN PERSPECTIVE

Dr. Archana D, Mahajan¹, BAMS. MS. PhD. Sch. (Prasutitantra & Streerog),

Dr. Sujata Jagtap², BAMS. MD. (Prasutitantra & Streerog),

Dr. Priya Walwatkar³, BAMS. MS. (Prasutitantra & Streerog),

Dr. Priyanka Kamble⁴ BAMS. MD. (Prasutitantra & Streerog),

¹Associate Professor, (Prasutitantra & Streerog Dept.), APM's Ayurved Mahavidyalaya Sion

²HOD. & Professor (Prasutitantra & Streerog Dept.), APM's Ayurved Mahavidyalaya Sion

³Associate Professor (Prasutitantra & Streerog Dept.), APM's Ayurved Mahavidyalaya Sion

⁴Assistant Professor (Prasutitantra & Streerog Dept.) APM's Ayurved Mahavidyalaya Sion

Article DOI: <https://doi.org/10.36713/epra25795>

DOI No: 10.36713/epra25795

ABSTRACT

Infertility is a growing reproductive health problem with multifactorial etiology. Hyperprolactinemia is a well-established endocrine cause of anovulatory infertility. Ayurvedic classics describe the role of Kshiravaha Naði (Stanyavaha Srotas) and its vitiation by Vata in the pathogenesis of reproductive disorders. Acharya Harita has specifically mentioned that Vata vitiating the Kshiravaha Naði leads to functional derangement of Stanya, which indirectly affects fertility. The present conceptual study aims to establish a correlation between Harita's description and modern hyperprolactinemia-induced infertility. A detailed analysis of Ayurvedic samprapti and modern endocrinological mechanisms reveals strong similarities in pathogenesis. Excess Stanya formation leads to Artava Kshaya and Vandhyatva in Ayurveda, which is comparable to prolactin-mediated suppression of ovulation in contemporary medicine. This study highlights the integrative relevance of classical Ayurvedic concepts in understanding endocrine infertility presenting a case series with 10 patients with infertility and raised prolactin levels.

KEY WORDS: Kshiravaha Naði, Vata, Hyperprolactinemia, Infertility, Stanya, Artava Kshaya

AIM

To study hyperprolactinaemia associated with infertility in relation to Vata dushti with Avarana of Stanyavaha Nadi.

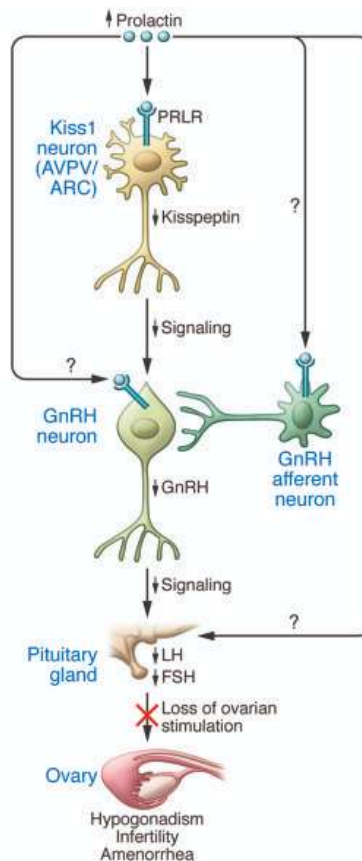
OBJECTIVES

- 1) To assess the clinical features of infertility in patients with hyperprolactinaemia.
- 2) To evaluate menstrual abnormalities in hyperprolactinaemic patients.
- 3) To correlate hyperprolactinaemia with Vata dushti and Avarana of Stanyavaha Nadi.

- 4) To assess Artava dushti resulting from Avarana of Apana Vata.

INTRODUCTION

Infertility affects approximately 10–15% of reproductive-age couples worldwide [1]. Among endocrine causes, hyperprolactinemia plays a significant role by suppressing ovulation through hypothalamic-pituitary axis inhibition. Elevated prolactin leads to menstrual irregularities, galactorrhoea, and anovulatory infertility [2].



Prolactin (PRL) is one of several hormones that are produced by the pituitary gland. PRL has many different roles throughout the body, the most important classical role of prolactin is to stimulate milk production in women after the delivery of a baby. Prolactin levels increase during pregnancy causing the mammary glands to enlarge in preparation for breastfeeding and ready to secrete colostrum's closely after delivery. Later on, the elevated prolactin levels help with the sustained production of milk during nursing. The somatomammotrop cells of the anterior pituitary gland synthesize and secrete prolactin, which is under the control of hypothalamic factors, mainly the tonic inhibition of Dopamine (DA).

During the first several months of breastfeeding, the higher basal prolactin levels also serve to suppress ovarian cycle, through the inhibition of pituitary hormones, mainly via LH suppression. This is the reason why women who are breastfeeding do not get their periods and therefore do not often become pregnant.

In actively breastfeeding mothers the related hyperprolactinaemia persists even over a year. As time goes on with less frequent breastfeeding, e.g. during weaning, the PRL levels do not stay as high and the woman may start to ovulate. In cases of nonlactating/ non breastfeeding mothers, that may happen between 2-3 month after delivery.

Similarly, elevated PRL levels are shown during gestation, but mechanisms to inhibit ovulation is related to elevated oestradiol and progesterone levels and a consequent depression of pituitary FSH secretion.

Generally, the lactogenic hormones play role also in regulation of reproductive function. On one hand, PRL is essential to maintain regular oestrus cycles. One of the other actions of PRL is to stimulate ovarian production of progesterone. That is required in the process of preparation for embryo implantation and it is dependent on a continued Oestrogen and progesterone secretion by the corpus luteum.

On the other hand, high prolactin levels are associated with anovulation or may cause directly or indirectly infertility. In young women, hyperprolactinemia is probably one of the most common endocrine disorders related to pituitary function.

Women who are not pregnant and are not breastfeeding should have lower levels of basal PRL (typically 10–28 µg/L in women and 5–10 µg/L in men are defined as “normal levels”) If a non-pregnant woman has abnormally high levels of PRL, it may cause her difficulty in becoming pregnant. It is considered as the most frequent cause of anovulatory sterility, although spontaneous pregnancy may occur occasionally. The prevalence of hyperprolactinemia varies in different patient populations, stays below 1% (0.4% in an unselected normal population) but can be as high as 17% of women with reproductive disorders shown at the clinics.

Clinically significant elevation of PRL levels may cause infertility in several different ways. First, prolactin may stop a woman from ovulating. If this occurs, a woman's menstrual cycles will stop. In less severe cases, high prolactin levels may only disrupt ovulation once in a while. This would result in



intermittent ovulation or ovulation that takes a long time to occur. Women in this category may experience infrequent or irregular periods. Women with the mildest cases involving high prolactin levels may ovulate regularly but not produce enough of the hormone progesterone after ovulation. This is known as a luteal phase defect. Deficiency in the amount of progesterone produced after ovulation may result in a uterine lining that is less able to have an embryo implant. Some women with this problem may see their period come a short time after ovulation.

Hyperprolactinemia is commonly found in both female and male patients with abnormal sexual and/or reproductive function or with galactorrhoea. If serum prolactin levels are above 200 µg/L, a prolactin-secreting pituitary adenoma (prolactinoma) is the underlying cause, but if levels are lower, differential diagnoses include the intake of various drugs, compression of the pituitary stalk by other pathology, hypothyroidism, renal failure, cirrhosis, chest wall lesions, or idiopathic hyperprolactinemia. When a pituitary tumour is present, patients often have pressure symptoms in addition to endocrine dysfunction, such as headaches, visual field defects, or cranial nerve deficits.[3]

In *Ayurveda*, fertility depends upon the equilibrium of *Doṣa*, *Dhatu*, *Agni*, *Srotas*, and proper functioning of *Artava*.

रसात् स्तन्यम तथा रक्तम ।

स्तन्यम क्षिरम रसस्य उपधात्: || – Addhamall tika

Updhatu of Rasa dhatu are Stanya and Raja These two *updhatus* are produced only in the female body.

Stanya:- In women, breast milk is produced in both breasts. After the birth of the baby, for the nourishment of the newborn, breast milk starts flowing from the mother's breasts.

Raja (Menstrual Blood):- In the female body, every month from the vaginal passage, from the uterus, the blood that flows for three to five days is called "*Raja*". This menstrual flow continues regularly in women from around 12 years of age up to 50 years.

Although the formation of breast milk takes place only after childbirth, nature begins preparing the breasts for milk production much earlier. During pregnancy, in order to nourish the foetus, the body initiates change that help in the preparation of milk. Hence, breast development during pregnancy is considered a natural physiological process.

According to *Ayurvedic texts*, preparation of the breast for lactation is called *Stanya-utpatti*. During pregnancy, the woman's body undergoes several changes like development of the mammary glands, enlargement of the breasts, and the formation of necessary channels for milk flow. These changes help in the proper nourishment of the mother and the growing fetus. Due to these physiological changes, the breast becomes capable of producing milk after childbirth.

It is said that during pregnancy, because the menstrual blood (*raja*) stops, that same nutrient portion is diverted towards the growth of the foetus and development of the placenta. A part of this nutrient portion also contributes to the formation of milk.

The menstrual flow does not occur during pregnancy because the blood that otherwise would have come out as menstruation is used for the nourishment of the foetus and the formation of the placenta. Due to this diversion of blood, the breasts develop, the mammary glands enlarge, and the lactiferous ducts multiply. After childbirth, due to the hormone-induced changes and stimulation by the newborn's suckling, breast milk is produced in adequate quantity. This milk is considered extremely important for the nourishment and healthy growth of the infant.[4]

बंध्यानाम क्षीर्नाड्यास्तू वार्ते परिपूरिता:

क्षिरम च न भवेत् स्मादारतावम चाधिकम यतः|| Hatit. Samhita.

Pratham, 8/10

Acharya Harita has described the pathological involvement of *Kṣhiravaha Nādi* when vitiated by *Vata*, leading to abnormal *Stanya* secretion and subsequent reproductive dysfunction. Since *Stanya* and *Artava* both originate from *Rasa Dhatu*, any pathological diversion of *Rasa* towards excessive *Stanya* production results in *Artava* depletion and *Vandhyatva*. [5]

This establishes a conceptual similarity between *Vata*-affected *Kṣhiravaha Nādi* and hyperprolactinemia, warranting a detailed comparative evaluation.

MATERIALS AND METHODS

Type of Study – Observational Clinical Case series.

Sample size – 12 patients with Infertility and raised prolactin levels

Source of Data - Classical Ayurvedic texts:

Harita Samhita

Charaka Samhita

Sushruta Samhita

Aṣṭanga Hṛidaya

Modern medical literature on:

Hyperprolactinemia

Neuroendocrine regulation of prolactin

Infertility and anovulation

METHODOLOGY

Review of classical references related to: *Kṣhiravaha Nadi*, *Stanyavaha Srotas*, *Artava* formation and *Vandhyatva*
Correlation with Prolactin physiology, Hypothalamic–pituitary–ovarian axis, Mechanism of anovulation in hyperprolactinemia



MASTER CLINICAL CASE SERIES TABLE

Case No.	Age	Type of Infertility	Duration	Menstrual Patten	Galactorrhoea	Sr. Prolactin (ng/ml)
1	24y	Primary	3years	Oligomenorrhoea	Present	60.33
2	19y	Primary	1 year	Irregular periods	Absent	51.75
3	30y	Secondary	5 years	Hypomenorrhoea	Absent	35.6
4	22y	Primary	1.5y	Scanty and Painful	Present	93.09
5	25y	Primary	2,5 y	Hypomenorrhoea	Absent	43.25
6	23y	Primary	1yr	Irregular Periods	Present	58.39
7	35y	Secondary	7yr	Hypomenorrhoea	Present	53.2
8	25y	Secondary	2yr	Irregular periods	Absent	39.87
9	25y	Secondary	3yrs	Oligomenorrhoea	Present	62.01
10	25y	Secondary	1.5yrs	Hypomenorrhoea and Irregular Menses	Absent	64.57
11	24y	Secondary	2y	Irregular Periods	Present	53.6
12	30y	Primary	4y	Irregular periods	Present	More than 250

RESULTS

A total of 12 female patients with infertility and raised serum prolactin levels were studied.

AGE DISTRIBUTION

The age of patients ranged from 19 to 35 years. Majority of patients (75%) belonged to the 20–25 years age group, indicating predominance in early reproductive age.

TYPE AND DURATION OF INFERTILITY

Primary infertility was observed in 6 patients (50%). Secondary infertility was also seen in 6 patients (50%).

MENSTRUAL PATTERN

Hypomenorrhoea was observed in 4 patients (40%). Oligomenorrhoea was present in 2 patients (20%). Irregular menstrual cycles were noted in 5 patients (30%). Scanty and painful menstruation was reported in 1 patient (10%). Thus, menstrual irregularities were present in 100% of cases.

GALACTORRHOEA

Galactorrhoea was present in 7 patients (58.3%). Absent in 5 patients (41.7%), indicating that hyperprolactinaemia may exist even without galactorrhoea.

CORRELATION ESTABLISHED

Ayurvedic Concept	Modern Equivalent
<i>Kshiravaha Nadi</i>	Lactiferous ducts + Prolactin regulatory pathway
<i>Vata vitiation</i>	Neuroendocrine dysregulation
<i>Stanya vruddhi</i>	Galactorrhea
<i>Rasa Dhatu depletion</i>	Hormonal imbalance
<i>Artava Kshaya</i>	Anovulation
<i>Vandhyatva</i>	Infertility

Thus, *Vata-avaritta Kshoiravaha Nadi* can be clinically correlated with hyperprolactinemia-induced infertility.

SERUM PROLACTIN LEVELS

Serum prolactin levels ranged from 35.6 ng/mL to >250 ng/mL. Majority of patients had prolactin levels between 40–70 ng/mL, suggesting moderate hyperprolactinaemia.

AYURVEDIC PERSPECTIVE

Kshiravaha Nadi are responsible for the transport and secretion of *Stanya* (breast milk). *Vata Doşa*, being the controller of all movements, regulates the functional activity of these *Nadis*. *Acharya Harita* states that when *Vata* occupies or obstructs *Kshiravaha Nadi*, it leads to:

- Abnormal *Stanya pravrutti*
- Disturbance in *Rasa Dhatu* circulation
- Since both *Stanya* and *Artava* are *Upadhatus* of *Rasa*, excessive utilization of *Rasa* in *Stanya* formation results in:
- Artava Kshaya*
- Anovulation
- Vandhyatva* (infertility)

MODERN PERSPECTIVE

Prolactin is secreted by the anterior pituitary. Hyperprolactinemia leads to Suppression of GnRH, Decreased FSH and LH secretion, Resultant anovulation and menstrual irregularities. It also causes: Galactorrhea, Luteal phase defect, Infertility

DISCUSSION

In the present case series, the predominance of patients in the reproductive age group highlights the importance of screening serum prolactin levels in women presenting with infertility. Equal distribution of primary and secondary infertility suggests



that hyperprolactinaemia affects both establishment and maintenance of fertility.

Menstrual abnormalities were universal, with hypomenorrhea and oligomenorrhea being the most common presentations. This supports the concept that prolactin excess primarily affects ovulatory function and endometrial development.

Galactorrhoea was present in only half of the patients, emphasizing that absence of galactorrhoea does not exclude hyperprolactinaemia, and biochemical assessment is essential.

The presence of hypomenorrhoea, oligomenorrhoea, and irregular cycles in this study supports the involvement of *Artavavaha Srotodushti* due to *Avarana*.

The fundamental Ayurvedic principle states that *Rasa Dhatu* is the precursor for both *Stanya* and *Artava*. Under normal physiological conditions, equilibrium is maintained between these two *Upadhatus*. However, when *Vata Doṣha* becomes vitiated in *Kṣhiravaha Naḍi*, abnormal stimulation of *Stanya* secretion occurs. This leads to excessive utilization of *Rasa Dhatu*, thereby reducing *Artava* formation.

From an *Ayurvedic* perspective, hyperprolactinaemia can be correlated with *Kapha-pradhana Avarana of Vata*, particularly affecting *Stanyavaha Nadi*. The obstruction caused by *Kapha* leads to *Vata dushti*, especially *Apana Vata*, resulting in *Artava Kshaya*, irregular menstruation, and *Vandhyatva*.

In modern medicine, prolactin excess inhibits GnRH, causing decreased gonadotropin secretion and ovulatory failure. This directly corresponds to *Artava Nasha* described in *Ayurveda*.

Thus, the *Ayurvedic samprapti* can be summarized as:
Vata vitiation → *Kṣhiravaha Naḍi dushti* → *Stanya vṛuddhi* →
Rasa kshaya → *Artava kshaya* → *Vandhyatva*

Which perfectly parallels the modern chain:

Hyperprolactinemia → GnRH suppression → FSH-LH decrease → Anovulation → Infertility

This correlation validates the scientific relevance of classical Ayurvedic descriptions and provides a holistic understanding of endocrine infertility.

CONCLUSION

The present study concludes that Acharya Harita's description of *Vata-avarita Kṣhiravaha Naḍi* represents the Ayurvedic counterpart of hyperprolactinemia. The pathological increase in *Stanya* production leads to *Artava* depletion and infertility, which is directly comparable to prolactin-induced suppression of ovulation. This conceptual correlation strengthens the integrative approach towards diagnosis and management of endocrine infertility through Ayurveda and modern medicine.

Future Scope

Clinical trials on Ayurvedic management of hyperprolactinemia
Evaluation of *Vata-shamaka* and *Stanya-nirodhaka* therapies

REFERENCES

1. <https://pmc.ncbi.nlm.nih.gov/articles/PMC6881900/#:~:text=INTRODUCTION,of%20Asia%20to%20Latin%20America>
2. <https://pmc.ncbi.nlm.nih.gov/articles/PMC3461927/>
3. <https://www.intechopen.com/chapters/42133>
4. *SushrutSamhita sharirasthan 4/24*
5. *Premvati Tiwari streerog Stree vandhyatva adhyay page 286, Artav vyapad page 174*