Case Study

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INTEGRATIVE AYURVEDIC MANAGEMENT OF INFERTILITY DUE TO LOW ANTI-MULLERIAN HORMONE: A CASE STUDY

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ABSTRACT

Infertility is a growing global reproductive concern, and low Anti-Mullerian Hormone (AMH) has emerged as a key indicator of diminished ovarian reserve and poor reproductive potential. AMH, produced by granulosa cells of small antral follicles, reflects the functional ovarian follicular pool. From an Ayurvedic perspective, such depletion corresponds to Dhatu Kshaya, particularly of Artava Dhatu, along with Apana Vata dysfunction and Srotodushti. This case study reports the integrative Ayurvedic management of a 32-year-old woman with low AMH (0.5 ng/ml), chronic constipation, sleep disturbance, mild anxiety, and a history of two failed intrauterine insemination cycles. The treatment comprised Virechana as Shodhana followed by Rasayana-based cycle-specific therapy including Garbha Dharak Yog, Beejpushtikar Ras, Chitrakadi Vati and Drakshasava alongside pathya-apathya, yoga, and lifestyle correction. The patient experienced progressive improvement in menstrual flow, digestion, sleep, mood stability, and libido. Conception occurred within three months and was confirmed by urine pregnancy test and transvaginal ultrasonography. These findings suggest that an integrative Ayurvedic approach focusing on Agni deepana, Ama pachana, dosha balancing, and Artava-shukra nourishment may support fertility even in women with low AMH. Further controlled studies are needed to validate these outcomes.

Keywords: Anti-Mullerian Hormone, Ayurvedic Infertility Management, Beeja, Dhatu Kshaya, Panchakarma, Virechana

INTRODUCTION

Infertility is a major reproductive health concern, affecting approximately 15% of couples globally, with female factors contributing to nearly 40% of cases.[1] Among these, diminished ovarian reserve (DOR) characterized by a reduced number and quality of oocytes is increasingly common, especially with advancing maternal age.[2]

Anti-Mullerian Hormone (AMH) serves as biomarker of ovarian reserve. Produced by granulosa cells of small antral follicles, AMH levels reflect the follicular pool size and correlate with fertility potential.[3] Normal AMH values range from 1.0 to 4.0 ng/ml, whereas values below 1.0 ng/ml indicate diminished reserve; levels below 0.5 ng/ml suggest severely reduced fertility.[4] Several factors influence AMH, including age, lifestyle habits, and medical interventions such as chemotherapy or ovarian surgery.[5]

In Ayurvedic terms, infertility may be understood as an imbalance of Rutu (fertile period), Kshetra (uterus), Ambu (nutrition), and Beeja (reproductive element).[6] Low AMH correlates with Dhatu Kshaya (tissue depletion), especially of Artava Dhatu, which manifests as reproductive tissue exhaustion and impaired oocyte formation. This case study explores the application of classical Ayurvedic therapies including Shodhana (detoxification) and Rasayana (rejuvenation) to restore reproductive health in a patient with low AMH infertility.

MATERIALS AND METHODS

Patient Profile
Age: 32 years
Marital Status: Married for 3.5 years
Chief Complaint: Infertility for more than two years despite regular unprotected intercourse
Menstrual History:
LMP 15/10/23 Regular cycles (28–32 days), scanty bleeding (3–4 days), mild dysmenorrhea, occasional clots
Past Treatment: Two unsuccessful IUIs, 2.5 years of allopathic fertility treatment
Prakriti: Vata-Pittaj
Satva/Satmya: Madhyama Satva; Sarvarasa Satmya
Agni/Koshta: Mandagni (weak digestion); Krura Koshta
Personal History: Constipation, sleep disturbance, low libido, mild anxiety
On Examination: Mildly coated tongue
Normal systemic, per vaginal, and per speculum findings

Investigations
AMH: 0.5 ng/ml
FSH : 15.15 mIU/ml
LH: 6.21 mIU/ml
Estradiol: 58.89 pg/ml
Prolactin: 10.88 ng/ml
TSH: Normal
Pelvic USG: Normal uterus and ovaries
HSG: Bilateral tubal patency
Semen analysis (husband): Normal

Diagnosis: Dhatu Kshayjanya Vandhyatwa (Infertility due low AMH)

Samprapti

Based on clinical features and investigations, the pathogenesis was established as follows:

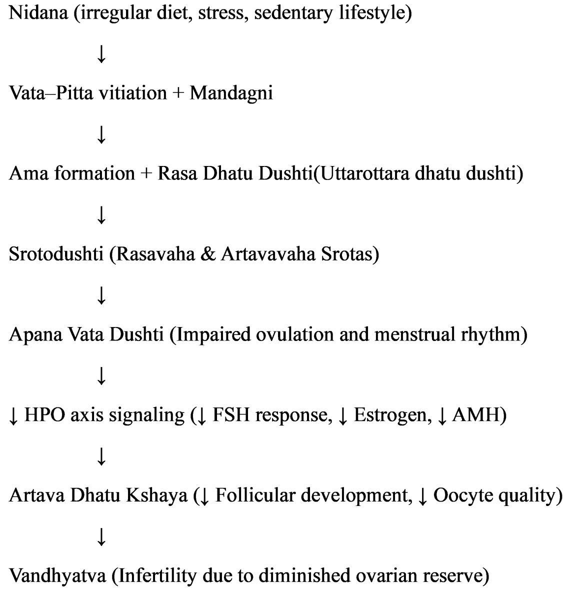


Figure 1: Samprapti

In Ayurveda, infertility due to low AMH can be classified under Dhatu Kshayajanya Vandhyatva[7], marked by the depletion of Artava Dhatu and dysfunction of Apana Vata. The contributing factors (Nidanas), including Vishamashana (erratic eating habits), persistent stress, a sedentary lifestyle, and Vegaavarodha (restraining natural urges), disturb the balance of Vata and Pitta doshas, triggering a pathological sequence.

Impaired Jatharagni and Dhatvagni (Agnimandya) leads to incomplete transformation of Ahara Rasa, resulting in Ama formation. This compromises Rasa Dhatu quality and quantity, which in turn affects Artava Dhatu,(it's Upadhatu). The Srotas responsible for carrying Rasa and

Artava (i.e., Rasavaha and Artavavaha Srotas) undergo Sanga (obstruction) and Vimargagamana (misdirection), further impeding reproductive tissue nourishment.

The predominant Apana Vata dushti disrupts the rhythm of follicular maturation, ovulation, and endometrial receptivity. Clinically, this manifests as Artavakshaya[8]—scanty menses, altered cycle regularity, and infertility.

From a biomedical standpoint, this Ayurvedic framework reflects the hypothalamic-pituitary-ovarian (HPO) axis dysregulation, where impaired gonadotropin signaling and oxidative stress reduce follicular reserve[9], mirroring the concept of Dhatu Kshaya and Srotodushti. AMH, a biomarker of ovarian follicular pool, parallels the functional capacity of Artava Dhatu. Absence or depletion of beej (ovum) causes failure inconception.[10]

Treatment Protocol

Consent: Informed consent was obtained for treatment and publication.

An integrative Ayurvedic treatment plan was initiated, focusing on Shodhana and Rasayana protocols:

Lifestyle changes, Yoga, pranayama, and adherence to Pathya Ahara-Vihara.

Shaman Aushadhi in 1st Follow up

Garbha Dharak yog: 1 tablet twice daily from 3rd day of menstruation up to 15th day

On 10th, 11th, 12th day: Chitrakadi vati 2 tablet twice daily

Tab. Beejpushtikar Ras 1 tablet twice daily for month

Drakshasav[16] 20ml twice daily with double amount of water.

2nd follow up

After month follow-up done in the OPD with showed Notable improvement in the symptoms of Artavaksaya was observed. Same medicines were continued.

Table 1: Treatment Protocol

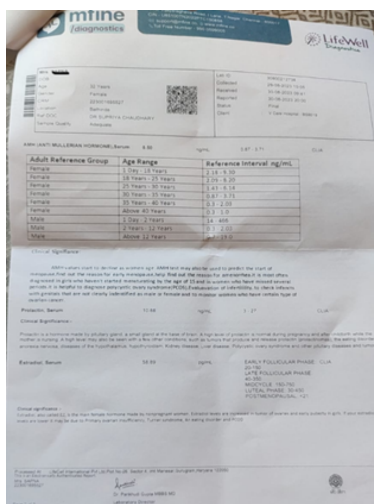
Treatment Given	Medicine		Days
Virechan Karma (Shodhan)	Purv Karma		
	Deepan Pachan	Panchkol churn[11] 5gm BD Chitrakadi vati[12] BD Erand taila[13] 20ml with warm milk HS	3 Days
	Snehapana	Snehapana was initially planned with Phala Ghrita, but the patient declined, so Goghrita[14] was used instead.	7 Days
	Sarvang Abhyanga and Swedan	Til taila for Abhyanga Bhashp Sweda for Swedan	3 Days
	Pradhan Karma		
	Virechan Yog	Trivrut avaleha[15] 200 gm soaked black raisins warm water	Pravar Shuddhi Twenty-five Vega (evacuation)
	Pashat Karma		
		Samsarjana Krama	7 Days
Shaman Aushadhi	For 2 Months		

RESULTS AND DISCUSSION

Table 2: Clinical improvement over months

Symptom	Before Treatment	After 1 Month	After 3 Months
Constipation	Present	Reduced	Resolved
Anxiety & Stress	High	Moderate	Minimal
Sleep Disturbance	Present	Improved	Maintained
Acidity	Present	Reduced	None
Mood Swings	Frequent	Mild	None
Libido	Low	Slightly Improved	Normal
Menstrual Flow	Scanty	Improved	Normal

Pregnancy was confirmed by positive UPT and USG Report at the end of the month.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AMH (ANTI MULLERIAN HORMONE),Serum

Adult Reference Group	Age Range	Reference Interval ng/mL
Female	1 Day - 18 Years	2.18 - 9.30
Female	18 Years - 25 Years	2.09 - 8.20
Female	25 Years - 30 Years	1.43 - 6.14
Female	30 Years - 35 Years	0.87 - 3.71
Female	35 Years - 40 Years	0.3 - 2.00
Female	Above 40 Years	0.3 - 1.0
Male	1 Day - 2 Years	14 - 466
Male	2 Years - 12 Years	0.3 - 2.03
Male	Above 12 Years	[illegible]

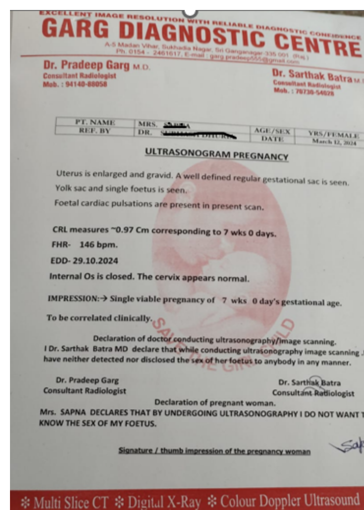
Prolactin, Serum

Clinical Significance :

Estradiol, Serum

EARLY FOLLICULAR PHASE
LATE FOLLICULAR PHASE
MIDCYCLE
LUTEAL PHASE
POSTMENOPAUSAL

Figure 2: Low AMH


EXCELLENT IMAGE RESOLUTION WITH RELIABLE DIAGNOSTIC CONFIDENCE

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PT. NAME	MRS. [redacted]		
REF. BY	DR. [redacted]	AGE/SEX	YRS/FEMALE
		DATE	March 12, 2024

ULTRASONOGRAM PREGNANCY

Uterus is enlarged and gravid. A well defined regular gestational sac is seen.
Yolk sac and single foetus is seen.
Foetal cardiac pulsations are present in present scan.

CRL measures ~0.97 Cm corresponding to 7 wks 0 days.
FHR- 146 bpm.
EDD- 29.10.2024
Internal Os is closed. The cervix appears normal.

IMPRESSION:→ Single viable pregnancy of 7 wks 0 day's gestational age.

To be correlated clinically.

Declaration of doctor conducting ultrasonography/image scanning.
I Dr. Sarthak Batra MD declare that while conducting ultrasonography image scanning .I have neither detected nor disclosed the sex of her foetus to anybody in any manner.

Dr. Pradeep Garg
Consultant Radiologist

Dr. Sarthak Batra
Consultant Radiologist

Declaration of pregnant woman.
Mrs. SAPNA DECLARES THAT BY UNDERGOING ULTRASONOGRAPHY I DO NOT WANT TO KNOW THE SEX OF MY FOETUS.

Signature / thumb impression of the pregnancy woman

❊ Multi Slice CT ❊ Digital X-Ray ❊ Colour Doppler Ultrasound ❊

Figure 3: USG Report

DISCUSSION

Low Anti-Müllerian Hormone (AMH) levels are indicative of diminished ovarian reserve (DOR), often translating into poor response to assisted reproductive protocols and reduced conception potential. In Ayurvedic parlance, this condition corresponds to Dhatu Kshayajanya Vandhyatva, characterized by depletion of Artava Dhatu due to chronic Mandagni, Vata-Pitta vitiation, and Srotorodha in Artavavaha Srotas. This case demonstrates how a personalized Ayurvedic approach addressing both metabolic and tissue-level imbalances may contribute to reproductive rejuvenation.

The treatment was structured into two classical phases: Shodhana (bio-purification) followed by Rasayana (rejuvenation). Virechana with Trivṛut Avaleha was employed to eliminate morbid Pitta, regulate Apana Vata, and facilitate the clearance of Ama. This bio-purificatory phase aimed at re-establishing digestive Agni, an essential precursor for Dhatu Poshana. Restoration of gut function and mental clarity observed post-Shodhana reflect improved systemic Agni and Manasika Bala, crucial for Artava Dhatu formation.

Following Shodhana, Rasayana Chikitsa was implemented in a cycle-specific manner. Garbha Dharak Yog, administered from the 3rd to 15th day of the cycle, likely supported follicular maturation and endometrial receptivity. Beejpushtikar Ras, containing Swarna Bhasma, is known to nourish Shukra and Artava Dhatus, which may translate biomedically into improved oocyte quality and ovarian response. Chitrakadi Vati enhanced Agni Dipana, supporting metabolic conversion during the ovulatory window. Drakshasava, a classical Rasayana and Hridaya Balya, contributed to systemic nourishment, stress modulation, and enhanced tissue perfusion.

Clinically, the outcomes—improved menstrual regularity, libido, digestion, sleep quality, emotional stability, and eventual conception—suggest a multidimensional restoration of reproductive physiology. These observations align with the Ayurvedic view that fertility is a product of balance across Agni, Dosha, Dhatu, and Manas.

From a biomedical standpoint, this integrative response can be explained through emerging insights into the gut-brain-ovary axis. Restoration of Agni and reduction of Ama parallels improvement in gut health and microbiota balance, which influences estrogen metabolism and systemic inflammation through the estrobolome.[17] Additionally, stress modulation—evidenced by improved sleep and mood—may normalize HPO axis function, as chronic cortisol elevation is known to impair GnRH and gonadotropin release .[18]

Further, components of Beejpushtikar Ras and Drakshasava may exert antioxidant, phytoestrogenic, and adaptogenic actions, which have been shown to reduce oxidative stress in the ovarian microenvironment, promote follicular perfusion, and enhance oocyte competence .[19]

CONCLUSION

This case illustrates how classically-timed Shodhana and Rasayana therapies can offer a systems-level restoration in women with low AMH, guided by Ayurvedic principles and supported by emerging biomedical evidence. Such integrative care holds promise for the personalized management of infertility related to diminished ovarian reserve.

Limitations: This is a single case study with no post-treatment AMH assessment. This was due to financial constraints and the patient declined to undergo repeat hormonal testing. Despite this, clinical improvement and successful conception were noted.

Future studies should explore the efficacy of such integrative approaches in larger cohorts with hormonal profiling, ultrasound folliculometry, and psychometric evaluation.

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