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#### **CASE REPORT**

# Therapeutic Approach to Oligospermia – A Case Report

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#### **ABSTRACT**

Oligospermia, defined as a sperm concentration below 15 million/mL, is one of the most prevalent causes of male infertility, contributing significantly to reproductive failure worldwide. Modern management often includes hormonal therapy, antioxidants, or assisted reproductive techniques, which may offer temporary relief but fail to address the underlying pathophysiological imbalance. Ayurveda, through its Vajikarana (aphrodisiac) and Rasayana (rejuvenation) therapies, offers a holistic and root-cause-based approach aimed at restoring Shukra Dhatu (reproductive tissue) and overall vitality. The objective of the study is to evaluate the effect of an Ayurvedic treatment protocol involving Panchakarma (bio-purification), Rasayana, and Vajikarana therapies in improving semen parameters and general health in a clinically diagnosed case of oligospermia. A 35-year-old male presented with infertility for 3 years and was diagnosed with oligospermia based on semen analysis (sperm count: 8 million/mL; motility: 25%). The patient underwent a structured Ayurvedic treatment plan consisting of Purvakarma (pre-purification) with Deepana-Pachana and Snehapana, followed by Virechana Karma using Trivrit Leha and Nasya with Anu Taila. Post-Shodhana, Shamana therapy was administered with Ashwagandha Churna, Kapikacchu Churna, Gokshuradi Guggulu, Shatavari Ghrita, and Chyavanprasha Avaleha for 90 days. Lifestyle and dietary modifications were also advised, including the consumption of milk, ghee, black gram, and stress-reducing yoga practices. After 90 days of treatment, the patient showed significant improvement in semen parameters: sperm count increased from 8 million/mL to 28 million/ mL, motility improved from 25% to 55%, and normal morphology rose from 60% to 80%. Clinically, there was a notable enhancement in libido, stamina, and mental well-being. The patient reported improved energy levels, better sleep, and reduced anxiety. No adverse effects were observed during or after therapy. The Ayurvedic management protocol incorporating Panchakarma, Rasayana, and Vajikarana therapies demonstrated remarkable efficacy in improving both quantitative and qualitative aspects of semen as well as overall vitality. The results suggest that Ayurvedic treatment can serve as a safe, natural, and holistic alternative for managing oligospermia by correcting Dosha imbalance, enhancing Agni, and nourishing Shukra Dhatu. Further clinical trials with larger sample sizes are warranted to validate these findings and establish standardized therapeutic protocols.

# 1. INTRODUCTION

Infertility is a growing global health concern that affects approximately 10–15% of reproductive-age couples, with male factors contributing to nearly 40–50% of cases. Among these, oligospermia – defined as a sperm concentration <15 million/mL as per WHO (2021) standards – is one of the most prevalent causes of male infertility. The condition may occur due to hormonal imbalance, testicular dysfunction, varicocele, infections, genetic abnormalities, oxidative stress, or lifestyle factors such as smoking, obesity, and chronic stress.<sup>[1]</sup>

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Poonam Bapuso Debaje, Assistant Professor, Department of Kayachikitsa, Dr. Shubhangi Pradip Patil Ayurvedic Medical College, Kolhapur, Maharashtra, India. Email: poonamdebaje05@gmail.com From an *Ayurvedic* perspective, oligospermia can be correlated with *Shukra Kshaya or Beeja Dushti*, conditions that indicate a depletion or vitiation of *Shukra Dhatu* (reproductive tissue). The formation of *Shukra Dhatu* is the final step in the *Dhatu Poshana Krama* (tissue nourishment process), where each preceding tissue contributes to the formation of the next. Any disturbance in *Agni* (metabolic fire), *Srotas* (channels of circulation), or *Tridosha* (biological humors: *Vata*, *Pitta*, *Kapha*) can interrupt this process, leading to *Dhatu Kshaya* and reduced *Shukra Dhatu* production. [2]

According to *Acharya Charaka*, *Shukra* is the essence of all *Dhatus* and is responsible for reproduction, vitality, and mental stability. *Shukra Kshaya* manifests as reduced sexual desire, decreased semen volume, erectile weakness, infertility, fatigue, and mental stress. Etiological

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factors (*Nidana*) such as *Ati Vyayama* (excessive physical exertion), *Atimaithuna* (overindulgence in sexual activity), *Krodha* (anger), *Chinta* (stress), Ratri *Jagarana* (night awakening), and improper diet lead to *Vata-Pitta* vitiation and *Shukra Dhatu Kshaya*.<sup>[3]</sup>

Ayurveda emphasizes a holistic, root-cause-based approach for managing *Shukra Kshaya*. The management involves:<sup>[4,5]</sup>

- Shodhana Chikitsa (purification therapy) to remove Avarana (obstruction) in Shukra Vaha Srotas and restore Agni function
- Shamana Chikitsa (pacification therapy) to balance aggravated Doshas
- Rasayana and Vajikarana therapies for Shukra Dhatu Vriddhi (nourishment of reproductive tissue), hormonal balance, and improvement in libido, vitality, and psychological health.

Vajikarana Chikitsa – one of the eight branches of Ayurveda (Ashtanga Ayurveda) – is dedicated to the enhancement of male reproductive health. Rasayana formulations such as Ashwagandha, Kapikacchu, Gokshura, Shatavari, and Chyavanprasha are well documented for their Shukra Vardhana, Balya, and Oja Vardhaka properties. These formulations improve semen parameters, increase sperm count and motility, and rejuvenate the reproductive system by acting at both physical and psychological levels. [6]

Modern pharmacological studies have also validated the efficacy of these *Ayurvedic* herbs in enhancing testosterone levels, spermatogenesis, antioxidant capacity, and stress modulation. Hence, integrating *Ayurvedic* therapeutic principles offers a promising alternative to conventional treatments that often involve hormonal therapy or invasive procedures.<sup>[7]</sup>

This case report presents the *Ayurvedic* therapeutic approach to managing a clinically diagnosed case of oligospermia, focusing on the combined use of *Panchakarma*, *Vajikarana*, and *Rasayana* therapies. The outcomes highlight the potential of *Ayurveda* in restoring male fertility through *Shukra Dhatu* enhancement and systemic rejuvenation.

# 1.1. Aims and Objectives

#### 1.1.1. Aim

• To evaluate the efficacy of *Ayurvedic* management in improving semen parameters and overall health in a patient with oligospermia.

# 1.1.2. Objectives

- To assess the effect of Panchakarma therapy on Shukra Dhatu function
- To evaluate the impact of Vajikarana and Rasayana formulations on sperm count, motility, and morphology
- To observe improvement in general health, libido, and psychological well-being.

# 2. MATERIALS AND METHODS

# 2.1. Study Design

This was single-case observational study with pre- and post-treatment evaluation.

# 2.2. Patient Selection

A 35-year-old male diagnosed with oligospermia based on semen analysis and clinical presentation was selected for *Ayurvedic* management.

#### 2.3. Inclusion Criteria

- Male aged 25–40 years
- Diagnosed with oligospermia (sperm count <15 million/mL)
- No major systemic illness.

#### 2.4. Exclusion Criteria

- Azoospermia or congenital anomalies
- A history of varicocele, infection, or testicular surgery
- The use of hormonal or fertility drugs.

#### 2.5. Materials

Ashwagandha Churna, Kapikacchu Churna, Gokshuradi Guggulu, Shatavari Ghrita, and Chyavanprasha Avaleha (for Rasayana therapy).

# 2.6. Methodology

- 1. Purvakarma (Preparatory Phase):
  - Deepana-Pachana with Trikatu Churna 2 g twice daily before food for 5 days
  - Snehapana with Tila Taila in increasing doses for 5 days
  - Abhyanga with Ksheerabala Taila followed by Swedana for 3 days.
- 2. Pradhana Karma (Main Panchakarma)
  - Virechana Karma using Trivrit Leha (50 g) is given once under supervision
  - Nasya with Anu Taila (8 drops/nostril) for 7 days post Virechana.

#### 3. CASE PRESENTATION

#### 3.1. Patient Details

A 35-year-old male presented with complaints of infertility for 3 years. He reported reduced sexual desire, fatigue, and anxiety.

#### 3.2. Personal History

• Appetite: Moderate

Sleep: Disturbed

• Bowel: Regular

Micturition: Normal

Addiction: Occasional smoking

• Occupation: IT professional (sedentary lifestyle).

#### 3.3. Clinical Findings

General: Moderate build, mild pallor

• Pulse: 78/min

Blood pressure: 120/80 mmHg
 Systemic: No abnormality detected.

# 3.4. Investigations

# 3.4.1. Semen analysis (Before treatment)

• Volume: 2.5 mL

Sperm count: 8 million/mL

• Motility: 25%

Morphology: Normal 60%

• pH: 7.8

#### 3.5. Daśabidha Parīkṣā – Tenfold Ayurvedic Examination

Shown in table 1.

#### 3.6. Diagnosis

Shukra Kshaya/Oligospermia.

#### 3.7. Therapeutic Intervention

# 3.7.1. Purvakarma (Pre-purification)

- Deepana-Pachana: Trikatu Churna 2 g twice daily before food for 5 days
- Snehapana: Tila Taila in increasing doses for 5 days
- Abhyanga with Ksheerabala Taila followed by Swedana (steam sudation) for 3 days.

#### 3.7.2. Pradhana Karma (Main therapy)

- Virechana Karma: Administered with Trivrit Leha (50 g) under supervision. Mild-to-moderate purgation achieved
- Nasya Karma: Anu Taila 8 drops per nostril for 7 days post-Virechana.

#### 3.7.3. Shamana and Rasayana Chikitsa

It is given in table 2 below

# 3.8. Diet and Lifestyle Advice

- Milk, ghee, black gram, dates, almond, and sesame intake encouraged
- Avoid smoking, stress, and late-night work
- Yoga practices: Ashwini Mudra, Bhramari Pranayama, and Dhanurasana are advised daily.

# 4. OBSERVATION AND RESULTS

The post-treatment semen analysis indicated significant improvement in sperm concentration, motility, and morphology. The patient reported a better sexual performance and mental well-being [Table 3].

#### 4.1. Summary of Outcome

The combined effect of detoxification (*Shodhana*), rejuvenation (*Rasayana*), and nourishment (*Vajikarana*) produced a sustained and comprehensive improvement. The case reaffirms that *Ayurvedic* treatment is capable of addressing both somatic and psychological dimensions of oligospermia [Table 4].

#### 5. DISCUSSION

Oligospermia, a condition of low sperm count, is a multifactorial disorder involving hormonal, genetic, lifestyle, and oxidative stress components. The success of *Ayurvedic* management in this case highlights the effectiveness of an integrated therapeutic approach combining *Shodhana*, *Shamana*, *Rasayana*, and *Vajikarana* principles.<sup>[8]</sup>

From an *Ayurvedic* perspective, *Shukra Dhatu* represents the final and most refined product of *Dhatu Poshana Krama* (tissue transformation sequence). The formation and maintenance of healthy *Shukra Dhatu* depend on the integrity of metabolic fire (*Agni*), unobstructed *Srotas* (micro-channels), and balance of *Tridoshas*. When Agni becomes impaired, or *Srotas* become blocked by *Ama* (metabolic toxins), the nourishment of *Shukra Dhatu* is hampered, leading to *Shukra Kshaya* (depletion of reproductive tissue). This pathology corresponds to the functional and quantitative deficit of sperm seen in oligospermia. [9]

#### 5.1. Role of Shodhana (Bio-purification)

The initial phase of management involved *Virechana* (purgation therapy), which is indicated in *Pitta* and *Avarana* conditions affecting *Shukra Vaha Srotas. Virechana* eliminates vitiated Pitta and accumulated toxins from the *Aashaya*, restoring *Agni* and improving tissue metabolism (*Dhatu Agni*).<sup>[10]</sup>

By clearing the channels (*Srotoshodhana*), *Virechana* enhances nutrient flow to the *Shukra Dhatu*, facilitating proper *Dhatu Poshana*. This purification lays the foundation for subsequent *Rasayana* therapy to act effectively. Moreover, *Nasya Karma* using *Anu Taila* acts on the *Shirogata Srotas* and hypothalamic–pituitary–gonadal (HPG) axis, indirectly improving hormonal regulation and reproductive function. [11]

#### 5.2. Role of Rasayana and Vajikarana Therapy

Following *Shodhana*, *Rasayana*, and *Vajikarana* herbs were administered to rejuvenate *Shukra Dhatu*. Each formulation was chosen based on its *Rasayana*, *Vrishya*, and *Shukra Vardhaka* properties as mentioned in *Ayurvedic* classics.<sup>[12]</sup>

- Ashwagandha (Withania somnifera)
  - It is Balya, Rasayana, and Shukra Vardhaka. Studies have demonstrated its adaptogenic and antioxidant effects that reduce cortisol, increase testosterone, and improve spermatogenesis. It acts as a Hrudya and Medhya herb, improving stress response and libido through modulation of the HPG axis.<sup>[13]</sup>
- Kapikacchu (Mucuna pruriens)
  - Classified as Vrishya and Medhya, it increases Shukra Dhatu
    and restores hormonal balance. Modern research indicates
    that L-DOPA present in Mucuna elevates dopamine levels,
    stimulating gonadotropin secretion and testosterone
    synthesis. This leads to enhanced sperm count, motility, and
    seminal plasma antioxidant levels.<sup>[14]</sup>
- Gokshuradi Guggulu:
  - Conventionally indicated for Mutravaha Srotas and Shukra Vaha Srotas disorders, it promotes urinary and reproductive health. Gokshura (Tribulus terrestris) enhances androgen receptor sensitivity and nitric oxide release, improving sexual performance and microcirculation to reproductive organs.<sup>[15]</sup>
- Shatavari Ghrita:
  - Shatavari (Asparagus racemosus) acts as a *Rasayana* and *Balya* drug that nourishes all seven *Dhatus*. The *Ghrita*-based facilitates deep tissue penetration (Sookshma *Vyavayi Guna*) and acts as a carrier for lipophilic phytoconstituents. It supports sperm maturation and protects against oxidative damage. [16]
- Chyavanprasha Avaleha:
  - A classical Rasayana formulation containing Amalaki and other rejuvenative herbs, it enhances Ojas, immunity, and overall vitality. It balances Tridosha, improves digestion, and supports Shukra Dhatu through Rasa-Rakta nourishment.<sup>[17]</sup>

Together, these formulations enhanced *Shukra Dhatu* formation by correcting *Agni*, removing *Ama*, and promoting anabolic activity. The combined effect led to an increase in sperm count, motility, and morphology, as evidenced by post-treatment semen analysis.<sup>[18]</sup>

# 5.3. Conceptual Correlation with Modern Science

From a biomedical standpoint, oligospermia involves oxidative stress, hormonal imbalance, and testicular dysfunction. The *Rasayana* herbs

used in this case exerted antioxidant, adaptogenic, and hormonal modulatory effects. *Ashwagandha* and *Kapikacchu* have been shown to increase serum testosterone and luteinizing hormone levels, improve sperm count and motility, and reduce lipid peroxidation in seminal plasma.<sup>[19]</sup>

- Gokshura enhances nitric oxide-mediated vasodilation, improving testicular microcirculation and nutrient supply to germ cells
- Shatavari supports the endocrine and antioxidant system, while Chyavanprasha improves systemic metabolism and immune function.

Thus, the *Ayurvedic* approach aligns closely with modern objectives – enhancing spermatogenesis, hormonal regulation, and oxidative defense mechanisms – but through holistic, non-invasive, and restorative means.

#### 5.4. Psychosomatic Considerations

Stress and anxiety are well-documented contributors to male infertility. In Ayurveda, this corresponds to *Manasika Nidanas* such as *Chinta* (worry) and *Krodha* (anger), which disturb *Vata* and *Pitta* and deplete *Shukra Dhatu*. The adaptogenic and Medhya effects of *Ashwagandha* and *Kapikacchu* reduce stress-induced reproductive suppression. Post-treatment improvement in mood, sleep, and libido in this patient highlights the psychosomatic benefits of Ayurvedic therapy.<sup>[20]</sup>

# 5.5. Clinical Significance

After 90 days of therapy, the patient's sperm count improved from 8 million/mL to 28 million/mL, motility from 25% to 55%, and normal morphology from 60% to 80%. Libido and general health were also restored. These outcomes indicate the synergistic impact of Panchakarma, Rasayana, and lifestyle modification in re-establishing *Shukra Dhatu Samyata* (homeostasis of reproductive tissue).

This case provides clinical evidence that the *Ayurvedic* line of treatment can address both biological and psychological dimensions of male infertility. Furthermore, it supports the concept that *Vajikarana Rasayana* therapy, when preceded by *Shodhana*, yields enhanced and sustained therapeutic results.

# **5.6. Summary of Mechanisms (***Ayurvedic* & Modern Integration) Cited in table 5

#### 6. CONCLUSION

The present case demonstrates the efficacy of a comprehensive Ayurvedic therapeutic approach in the successful management of oligospermia. The integrated line of treatment involving Panchakarma, Rasayana, and Vajikarana therapies not only improved the patient's sperm parameters but also enhanced general health, libido, and psychological well-being. Ayurvedic management, based on the principles of Shukra Dhatu Poshana and Tridosha Samyata, aims to correct the root cause rather than offering symptomatic relief. Virechana Karma played a crucial role in Pitta Shamana and Srotoshodhana, thereby facilitating proper nourishment of Shukra Dhatu. Subsequent administration of Rasayana and Vajikarana formulations such as Ashwagandha, Kapikacchu, Gokshura, and Shatavari Ghrita acted synergistically to promote Dhatu Vriddhi, hormonal balance, and improved semen quality. The patient exhibited marked improvement in sperm count (from 8 million/mL to 28 million/mL), motility (from 25% to 55%), and morphology (from 60% to 80%) after 90 days of treatment. These changes were accompanied by improvements in energy levels, stress tolerance, and sexual desire, reflecting holistic recovery.

#### 7. ACKNOWLEDGMENTS

Nil.

#### 8. AUTHORS' CONTRIBUTIONS

All authors have contributed equally to conception, design, data collection, analysis, drafting, and final approval of the manuscript.

#### 9. FUNDING

Nil.

#### 10. ETHICAL APPROVALS

This study does not require ethical clearance as it is a Case Report.

#### 11. CONFLICTS OF INTEREST

Nil.

#### 12. DATA AVAILABILITY

This is an original manuscript, and all data are available for only review purposes from the principal investigators.

#### 13. PUBLISHERS NOTE

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Table 1: Daśabidha Parīkṣā – Tenfold Ayurvedic Examination

S. No.	Parameter (Parikṣhā)	Description	Findings in patient (Case study)			
1	Prakṛti	Constitution	Vāta–Pitta Prakṛti			
2	Vikṛti	Current Dosha imbalance	Vāta-pradhāna Tridoṣa Vikṛti affecting Shukra Vaha Srotas			
3	Sāra	Excellence of Dhatus	Shukra Sāra – Poor; Rasa, Rakta, Mamsa, Meda – Madhyama			
4	Samhanana	Compactness of body	Madhyama Samhanana			
5	Pramāṇa	Anthropometry	Height: 171 cm, Weight: 68 kg, BMI: 23.2			
6	Satmya	Adaptability/ Habituation	Miśra Satmya (mixed diet adaptability)			
7	Sattva	Mental strength	Avara–Madhyama Sattva (stress-prone, anxiety episodes)			
8	Āhāra Śakti	Digestive capacity	Madhyama Agni (moderate appetite, occasional fluctuations)			
9	Vyāyāma Śakti	Exercise tolerance	Madhyama (moderate stamina)			
10	Vaya	Age	35 years (Madhyama Vaya)			

Table 2: Shamana and Rasayana Chikitsa

Medicine	Dose	Duration	Indication
Ashwagandha Churna	5 g twice daily with milk	3 months	Shukra Vardhana, Balya
Kapikacchu Churna	5 g twice daily with honey	3 months	Vrishya, Medhya
Gokshuradi Guggulu	2 tablets twice daily	3 months	Mutrala, Shukra Vardhaka
Shatavari Ghrita	10 mL twice daily with milk	2 months	Rasayana, Dhatu Pushtikara
Chyavanprasha Avaleha	1 tsp daily	3 months	Rasayana

Table 3: Observation and Results before and after treatment

Parameter	Before treatment	After 90 days
Volume	2.5 mL	3.0 mL
Sperm count	8 million/mL	28 million/mL
Motility	25%	55%
Morphology	60% normal	80% normal
Libido	Reduced	Normalized
General Health	Fatigue, anxiety	Improved stamina and calmness

**Table 4: Outcome of the treatment** 

Parameter	Baseline	Post-treatment	Result
Sperm Count	8 million/mL	28 million/mL	↑ Normalized
Motility	25%	55%	↑ Significant improvement
Morphology	60%	80%	↑ Improved
Libido and Vitality	Reduced	Normalized	↑ Restored
Mental Health	Anxiety, fatigue	Calm, energetic	↑ Improved

Table 5: Summary of Mechanisms (Ayurvedic & Modern Integration)

Ayurvedic concept	Corresponding modern mechanism
Agni Deepana and Ama Pachana	Improves metabolism and hormonal synthesis
Srotoshodhana	Enhances microcirculation and nutrient delivery to testes
Shukra Dhatu Poshana	Promotes spermatogenesis and semen quality
Vajikarana	Enhances libido and testosterone levels
Rasayana	Acts as antioxidant and rejuvenator
Manasika Shanti	Reduces stress-induced hormonal suppression