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REVITALIZING FERTILITY: A CASE REPORT ON THE AYURVEDIC MANAGEMENT OF OLIGOSPERMIA (*SHUKRAKSHAYA*)

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Abstract: -

This case study explores the integrative *Ayurvedic* treatment of a 35-year-old male diagnosed with oligospermia, characterized by a suboptimal sperm count of 1 million/mL, well below the normative threshold set by the World Health Organization. In addition to challenges in conceiving, the patient suffered from recurrent sinusitis, significant fatigue and weakness, compounded by a predominantly sedentary lifestyle and long-term tobacco use. Employing a holistic *Ayurvedic* approach, the treatment protocol included dietary adjustments, lifestyle modifications and a regimen of specific *ayurvedic* formulations aimed at correcting the underlying *doshic* imbalances specifically *Vata* and *Pitta*, and enhancing *Shukra Dhatu*, the reproductive tissue.

Post-treatment results were promising, showing a surge in sperm concentration to 35 million/mL and improvements in motility with actively motile sperm increasing significantly. Subjective improvements were also notable; the Fatigue Severity Scale score decreased and the Medical Research Council Scale for Muscle Strength showed enhanced muscle function. These results suggest that an *Ayurvedic* approach, focusing on lifestyle and systemic balance, can significantly improve both quantitative and qualitative aspects of sperm, thereby enhancing overall reproductive health. This case underscores the potential of traditional medicine in treating complex health conditions like oligospermia and highlights the need for further research to validate and optimize such integrative treatment approaches.

Keywords: - *ShukraKshaya*, Oligospermia, Infertility

Introduction

Oligospermia, commonly referred to as low sperm count, is a significant factor contributing to male infertility, characterized by, fewer spermatozoa in the ejaculate than the normative threshold set by the World Health Organization (WHO), which is currently less than 15 million sperm per millilitre of semen.[1] This condition not only affects physical health but also poses psychological and social challenges to affected individuals.

In Ayurveda, oligospermia is closely linked with the concept of *"ShukraKshaya." Shukra* denotes the semen or reproductive tissue, while *Kshaya* refers to a decrease or degradation in quality or quantity.[2] Classical texts like *Charaka Samhita* and *Sushruta Samhita* elaborate on *Shukra'*s significance in reproduction and maintaining overall vitality. References in these texts suggest a variety of *ayurvedic* formulations and lifestyle modifications aimed at enhancing *Shukra* and correcting related imbalances.[3] Previous work in *Ayurvedic* medicine has shown promising results in treating *ShukraKshaya* with dietary modifications, *ayurvedic* medicines and *Panchakarma* therapies, focusing on improving not just sperm count but also overall physical and mental wellness which are pivotal in the holistic treatment methodologies of *Ayurveda*.[4]

From a modern medical viewpoint, oligospermia is influenced by numerous factors, including genetic anomalies, lifestyle choices (such as smoking and alcohol consumption), environmental toxins and medical conditions such as varicocele, hormonal imbalances and infections of the reproductive tract.[5] The pathophysiology primarily involves the impaired production of sperm by the testes or obstruction in sperm transport. Understanding the epidemiology, it is evident from research that sperm counts have been notably declining in the recent decades across the globe, which has been linked to modern lifestyle practices and environmental factors, signalling a rising prevalence and public health concern.[6]

According to *Ayurveda*, the pathogenesis *(Samprapti)* of *ShukraKshaya* involves the vitiation of *Vata* and *Pitta Doshas* along with impairment of *Shukra Dhatu*. The depletion *(Kshaya)* or aggravation of *Doshas* can be caused by improper diet, lack of sleep, excessive mental work, or physical strain, which hampers the body's natural balance and subsequent formation and quality of *Shukra.*[7] Factors contributing to this imbalance includes dietary and lifestyle habits, psychological stress and environmental conditions, each resonating with modern risk factors identified for oligospermia.

Understanding oligospermia through both *Ayurvedic* and modern lenses allows for a comprehensive view, integrating ancient wisdom with contemporary research and

techniques. Helping tackle this growing issue requires a multifaceted approach, combining diet, lifestyle modifications, medication and possibly assisted reproductive technologies in severe cases. This convergence of knowledge can lead to more effective and personalized treatment strategies, enhancing reproductive health and wellbeing.

Case Report

Patient History and Information

The patient, a 35-year-old male, presented with oligospermia diagnosed through a semen analysis, which indicated a sperm count significantly below the normal range established by the World Health Organization. The patient had been experiencing recurrent bouts of sinusitis, exacerbating discomfort and potential systemic inflammation that could be indirectly influencing his reproductive health. The patient also had fatigue and weakness.

Diet and Lifestyle History

The patient's diet was primarily calorically dense with a high intake of processed and fatty foods, and low in fruits, vegetables and whole grains, which may contribute to overall reduced health and suboptimal reproductive function. His lifestyle was sedentary with minimal physical activity, which is complemented by his occupation, requiring prolonged periods of sitting.

Medical and Surgical History

There had been no significant prior medical interventions or surgical procedures reported, except for the management of his recurrent sinusitis through the intermittent use of over-the-counter decongestants and prescription antibiotics during exacerbations. No significant improvement in sinusitis had led to a pattern of frequent medication use. The patient also had generalized weakness and fatigue that might be related.

Family History

The patient did not report any significant genetic or familial health issues that could be directly linked to his current reproductive health concern.

Addiction History

A notable aspect of the patient's history was his longstanding tobacco use, which had been a consistent part of his lifestyle for over 15 years. This addiction was significant, as tobacco is known to adversely affect sperm quality and overall reproductive health.

Onset and Disease Progression

The concern regarding oligospermia surfaced approximately two years ago when the patient and his partner faced difficulties conceiving. The couple has been attempting to conceive naturally for about three years without success, prompting an evaluation of both partners' reproductive health. His initial semen analysis revealed a sperm count of 1 million sperm per millilitre, well below the normal threshold. Further evaluations have consistently shown similar results, with little to no improvement in sperm concentration.

Given the chronicity of his sinusitis and its potential impact on his general immunity and wellbeing, combined with a lifestyle and addiction that negatively impacts sperm production, a multifaceted approach to his treatment was considered necessary. This approach aimed at addressing not just the symptom of low sperm count but also the broader systemic imbalances contributing to his condition.

Vital Parameters:

- **Body Mass Index (BMI):** The patient presents with a BMI of approximately 22.4 kg/m^2, suggestive of a normal BMI.
- **Blood Pressure:** 116/80 mmHg.
- **Heart Rate:** Regular, at 74 beats per minute.

Ayurvedic Examination

Table 1. *AshtavidhaPariksha* (Eight-fold Examination)

Sr. No	Examination	Findings
1.	***Nadi* (Pulse**	*Vata- Pittaja*
2.	***Mutra* (Urine)**	*Ishatapita*
3.	***Mala* (Stool)**	*Abadha*
4.	***Jihva* (Tongue)**	*Saam*
5.	***Shabda* (Voice)**	*Spashta*
6.	***Sparsha* (Touch)**	*Anushna*
7.	***Drik* (Eyes)**	*Shweta*
8.	***Akriti* (Appearance)**	*Madhyam*

Table 2. *DashavidhaPariksha* (Ten-fold Examination)

Sr. No	Examination	Findings
1.	***Prakriti* (Constitution):**	*VataKaphaja*
2.	***Vikriti* (Imbalance)**:	*VataPittaja*
3.	***Sara* (Tissue Excellence)**:	*Madhyam*
4.	***Samhanana* (Body Build)**:	Moderate
5.	***Pramana* (Body Proportions)**:	Within normal limits.
6.	***Satmya* (Adaptability)**:	Moderate
7.	***Satva* (Psychological Strength)**:	*Madhyam*
8.	***Ahara Shakti* (Digestive Strength)**:	*Madhyam*
9.	***Vyayama Shakti* (Exercise Capacity)**:	Moderate
10.	***Vaya* (Age)**:	*Madhyam*

Systemic Examination

- **Cardiovascular and Respiratory Systems:** Examination revealed no abnormalities in heart rate, rhythm, or respiratory sounds, indicating normal functioning of both the cardiovascular and respiratory systems.
- **Gastrointestinal System:** The abdominal exam showed no tenderness, masses, or abnormalities, and bowel sounds were normal.
- **Genitourinary System:** Examination of the external genitalia and testes showed normal morphology and texture, with no abnormalities detected upon palpation.
- **Neurological System:** The patient was fully alert, with intact cranial nerve functions and demonstrated normal motor and sensory responses. Reflexes were symmetrical across all tested sites.
- **Musculoskeletal and Dermatological Systems:** There were no signs of endocrine imbalances such as gynecomastia or abnormal hair patterns. Additionally, no musculoskeletal complaints or dermatological lesions were noted during the examination.

Diagnostic Assessment

Laboratory Results: done on 25/11/2024

PHYSICAL EXAMINATION

- **Volume:** 2.0 ml
- **Colour:** Whitish
- **Reaction:** Alkaline
- **Viscosity:** Normal

MICROSCOPIC EXAMINATION

- **Total Sperm Count:** 01 million/ml
- **Motility**
    - **Actively Motile:** 50 %
    - **Sluggish Motile:** 05 %
    - **Non Motile:** 45 %
- **Pus Cell:** 1-2 /HPF
- **Fructose Test:** POSITIVE

Assessment Parameters Used in this Case Report: -

Objective Parameters - Semen Analysis

1. **Total Sperm Concentrate**[8]:
    - **Scale**: Count per millilitre (ml). Normal range is ≥ 20 million/mL.
2. **Sperm Motility**:
    - **Scale**: Classified into:
        - PR (Progressive motility): Sperms moving actively, either linearly or in a large circle, ≥ 32%.
        - NPM (non-progressive motility): Sperms move but do not progress forward, ≥ 60%.
        - NM (Non-motile): Sperms that do not move, ≤ 75%.

Subjective Parameters - Sleeplessness, Fatigue and Weakness

1. **Fatigue**[9]:
    - **Scale**: Fatigue Severity Scale (FSS), which has 9 statements that the patient rates from 1 (strongly disagree) to 7 (strongly agree) regarding their fatigue levels.
2. **Weakness**[10]:
    - **Scale**: Medical Research Council (MRC) Scale for Muscle Strength. This is a 6-point scale ranging from 0 (no muscle contraction) to 5 (normal strength).

Therapeutic Intervention

I. Diet Plan:[11]

The dietary guidelines provided by Jeena Sikho Lifecare Limited Clinic Ahmedabad included the following key recommendations:

a. Foods to be avoided:

- Do not consume wheat, refined food, milk and milk products, coffee and tea and packed food.
- Avoid eating after 8 PM.
- During solid consume as small bite and chew 32 times.

b. Hydration:

- During water intake, take sip by sip and drink slowly to ensure the amount of water intake each time.
- Drink about 2-3 liters of alkaline water 3 to 4 times throughout the day.
- Include Herbal tea, living water and turmeric-infused water as part of daily routine.
- Boil 4 liters water & reduce up to 2 liters and consume.

c. Millet Intake:

- Incorporate five types of millet into diet: Foxtail (*Setariaitalica*), Barnyard (*Echinochloaesculenta*), Little (*Panicumsumatrense*), Kodo (*Paspalumscrobiculatum*) and Browntop (*Urochloa ramose*).

- Use only steel cookwares for preparing the millets
- Cook the millets only using mustard oil.

d. Meal Timing and Structure:

1. Early Morning (5:45 AM): Herbal tea, curry leaves (1 leaf-1 min/5 leaves-5 min) along with raw ginger and turmeric.
2. Breakfast (9:00-10:00 AM): The patient had steamed fruits (Seasonal), steamed sprouts (according to the season) and a fermented millet shake (4-5 types).
3. Morning Snacks (11:00AM): The patient given red juice (150 ml) and soaked almonds.
4. Lunch (12:30 PM - 2:00 PM): The patient received Plate 1 and Plate 2. Plate 1 will included a steamed salad, while Plate 2 with a cooked millet-based dish along with raw ginger and turmeric.
5. Evening Snacks (4:00 – 4:20 PM): Green juice (100-150 ml) along with 4-5 almonds.
6. Dinner (6:15-7:30 PM): The patient served a steamed salad, chutney, and soup, as Plate 1, along with millet khichdi as Plate 2 along with raw ginger and turmeric.

e. Fasting:

- It is advised to observe one-day fasting.

f. Special Instructions:

- Express gratitude to the divine before consuming food or drinks.
- Sit in *Vajrasana* (a yoga posture) after each meal.
- 10 minutes slow walk after every meal.

g. Diet Types:

- The diet comprises salt-less solid, semi-solid and smoothie options.
- Suggested foods include Herbal tea, red juice, green juice, a variety of steamed fruits, fermented millet shakes, soaked almonds and steamed salads.

II. Lifestyle Recommendations

(i) Include meditation for relaxation.

(ii) Practice barefoot brisk walk for 30 minutes.

(iii) Ensure 6-8 hours of quality sleep each night.

(iv) Adhere to a structured daily routine

Medicines used in this Case

Following medicinal Treatment was given to the patient during the admission period

Table 3 - Day 1 – 09/12/2024

Medications	**Dose**	**Anupana**	**Duration**
Spermosurge Capsule – The Ingredients are ***Viddhadaru*** is known scientifically as ***Argyreia nervosa***, ***Gokshuru*** as ***Tribulus terrestris***, ***Jeevanti*** as ***Leptadenia reticulata***, ***Shailyeam*** (likely ***Parmelia perlata***), ***Ashwagandha*** as ***Withania somnifera***, ***Kokilaksha*** as ***Hygrophila auriculata***, ***VanyaKahu*** as ***Lactuca scariola***, ***Kapikacchu*** as ***Mucuna pruriens***, ***Salam Panja*** as ***Dactylorhiza hatagirea***, ***Bala*** as ***Sida cordifolia***, and ***Chopchini*** as ***Smilax china***.	1 Cap BD	Lukewarm Water (*KoshnaJala*)	*Adhobhakta* (After Meal)
Ashwagandha ghan Vati - AshwagandhaGhanVati is a Ayurvedic supplement formulated primarily from the extract of ***Withania somnifera***, commonly known as Ashwagandha. The term "GhanVati" refers to tablets made from concentrated ayurvedic extracts, implying a more potent formulation compared to those made from dried powdered herbs alone.	1 Tab BD	Lukewarm Water (*KoshnaJala*)	*Adhobhakta* (After Meal)
Tab PunarnavaGhan - PunarnavaGhan Vati is an Ayurvedic formulation in tablet form renowned for its diuretic and rejuvenative properties. The primary herb, ***Punarnava*** (*Boerhavia diffusa*), is utilized to alleviate fluid retention and swelling, support kidney and heart health and promote liver function, aiding conditions like jaundice. Additionally, it benefits the digestive system and can also be used to tackle arthritis and general weakness.	1 Tablet BD	Lukewarm Water (*KoshnaJala*)	*Adhobhakta* (After Meal)

Ge-Liv forte Syrup -*Bhringraj* (*Ecliptaprostrata*), ***Kuchri***, which could possibly refer to a regional name not commonly translated to a Latin equivalent, ***Kalmegh*** *(Andrographis paniculata),* ***Kutki*** *(Picrorhiza kurroa),* ***Vidang*** *(Embelia ribes),* ***Nishoth*** *(Operculina turpethum),* ***Daruharidra*** *(Berberis aristata),* ***ChitrakMool*** *(Plumbago zeylanica),* ***BhumiAmla*** *(Phyllanthus amarus) and* ***Sudarshan***	15 ml BD	Equal amount of Lukewarm Water *(Sama Matra KoshnaJala)*	*Adhobhakta* (After Meal)
Spermatozoa BLK – The Ingredients are *Avena sativa, Damiana* (likely referring to ***Turnera diffusa***), China Off (commonly known as ***Cinchona officinalis***), *Yohimbinum* (derived from ***Pausinystalia yohimbe***), *Agnus Cast* (also known as ***Vitexagnus-castus***), *Lycopodium* (known as ***Lycopodium clavatum***), and *Viburnum* Op. (referencing ***Viburnum opulus***).	10 ml BD	Equal amount of Lukewarm Water *(Sama Matra KoshnaJala)*	*Adhobhakta* (After Meal)
VPK Balance Kit – **Dr Immune Tab -** ***Kesar****(crocus sativus),* ***Ashwagandh****a(withaniasomnifera),* ***Shatawar****(asparagus recemosus),* ***Pippal****(piper longum),* ***Tulsi****ocimumsantum),* ***Launge****(syzigiumaromaticum),* ***Chhotielaichi****(Elaterriacardamomum),* ***Sounth****(Zingiberofficinale),* ***Haldi****(Curcuma longa),* ***Lohbhasma****,* ***Swarnmakshikbhasma, Muktashuktibhasma, Shunkhpushpi****(Convolvulus pluericaulis),* ***Papita sat****(carica papaya),* ***Pudina****(Menthaviridis),* ***Dalchini****(Cinnamomum),* ***Tejpatra****(cinnamomumtamala),* ***Badielaich****i (Amomumsabulatum),* ***Ajwain****(Trachyspermumammi),* ***Giloy*** *(Tinosporacordifolia),* ***Amalaki*** *(embliaofficinali),H****aritaki****(Terminaliachebula)* **Dr Shuddhi Powder -** ***Trikatu, Triphala, Nagarmotha****(Cyprus rotundus),* ***Vayvidan****g(Embliaribes),* ***Chhotielaich****i(Eletariacardamomum),* ***Tejpatra****(cinnamomumtamla),* ***Laun****g(Syzygiumaromaticum),* ***Nishoth****(operculinaterpenthum),* ***Rock salt****,* ***Dhaniya****(Coriandrumsativum,),* ***Piplamool****(Piper nigrum),* ***Jeera****(CumminumCyminum),* ***Nagkesar*** *(Mesuaferrie),* ***Amarvati*** *(Tinosporacardifolia),* ***Anardana****(Punicagranatum),* ***Dalchini****(Cinnamomumzelyanicum),* ***Badielaichi***	Immune tab – 1 tab BD	Lukewarm Water (*KoshnaJala*)	Dr Immune Tab : *Adhobhakta* (After Meal),

(AmmomumSubutalum), ***Hing****(Ferula foetida),* ***Kanchnar****(Boehiniavariegata),* ***Ajwain****(Trachyspermumammi),* ***Sazikshar,*** ***Pooshkarmool****(Inularacemosa),* ***Senna(****Cassia angustafolia), mishri Cam* **Nabhi Oil -** ***Harad*** *(Terminliachebula)* ***Bahera****(Terminalliabellirica)* ***Amla****(phyllanthusemblica)* ***Almond****(Prunus dulcis)* ***Hing*** *(Ferula foetida)* ***Jaiphal****(Myristicafragrans)* ***Ajwain****(Trachyspermumammi),* ***Clove****(Syzygiumaromaticum)* ***Camphor****(Cinnamomumcomphora)* *Olive(Olea europaea)* *Coconut(cocucnucifera)* ***Neem****(Azardirachtaindica)* *Lemongrass(Cymbopogon)* ***Kali jeera****(Buniumpersicum)* ***Ajmoda****(Apiumgraveolens)* ***Guggul*** *(Commiphoraweightii)* ***Giloy****(Tinosporacordifolia)* ***Chiryata****(Swertia japonica)* ***Kalonji****(Nigella sativa)* ***Til tail*** *(Sesamum indicum)* ***Katu tailam*** **Tooth Oil -** ***Glycerine*** ***Long oil*** *(Syzygiumaromaticum)* ***Peparmint*** *(Menthaarvensis)* ***Sat ajwain****(Trachyspermumammi)* **32 Herbs Tea -** ***Gauzaban****(onosmabracteatum)* ***Kulanjan*** *(Alpinia galangal)* ***Chotielaichi*** *(Elettariacardamomum)* ***Laung*** *(Syzygiumaromaticum)*	Dr Shuddhi Powder – ½ tsf HS Nabhi Oil – At night L/A		Dr Shuddhi Powder : *Nishikala*

Badielaichi *(Amomumsubulatum)* ***Khtayi*** *(Pimpinellaanisum)* ***Banafsa*** *(VIOlaodorata)* ***Jufa****(hyssofusofficianalia,* ***Ashwagandha****, (Withaniasomnifera),* ***Mulethi****(Glycerrhizaglabra),* ***Punrnava****(Boerhaviadiffusa),* ***Bramhi****(Bacopamoneira),* ***Chitrak****(plumbagozeylanica),* ***Kali mirch*** *(piper nigrum)* ***Adulsa****(Adhatodavasicanees),* ***Saunf****(Foeniculum vulgare)* ***Shankhpushpi****(convolvuli pluericaulis),* ***Tulsi****(ocimumsantum),* ***Arjun****(Terminaliaarjuna),* ***Motha****(Cyperusrotundus),* ***Sonpatra****(cassia angustafolia),* ***Sonth****(zingiberofficinale),* ***Manjistha****(rubiacardifolia), Tephrosiapurpurea,* ***Dalchini****(cinnamomumverum),* ***Gulab****(Rosa centifolia), grass tea(camliasinensis),* ***Giloy****(Tinosporacordifolia),* ***Tejpatra****(cinnamomumtamala),* ***Lalchandan****(pterocarpussentalinus),* ***white chandan****(santalum album)*	Tooth Oil – In morning after brushing 32 Herbs Tea – In morning empty stomach		

Table 4 - Day 2– 17/01/2025

Medications	**Dose**	**Anupana**	**Duration**
Spermosurge Capsule	1 Cap BD	Lukewarm Water (*KoshnaJala*)	*Adhobhakta* (After Meal)
AshwagandhaghanVati	1 Tab BD	Lukewarm Water (*KoshnaJala*)	*Adhobhakta* (After Meal)
Tab PunarnavaGhan	1 Tablet BD	Lukewarm Water (*KoshnaJala*)	*Adhobhakta* (After Meal)
Ge-Liv forte Syrup	15 ml BD	Equal amount of Lukewarm Water *(Sama Matra KoshnaJala)*	*Adhobhakta* (After Meal)
Spermatozoa BLK	10 ml BD	Equal amount of Lukewarm Water *(Sama*	*Adhobhakta* (After Meal)

		Matra KoshnaJala)	
VPK Balance Kit- • **Dr. Immune Tab** • **Dr. Shuddhi Powder** • **Nabhi Oil** • **Tooth Oil** • **32 Herbs Tea**	Immune tab – 1 tab BD Dr Shuddhi Powder – ½ tsf HS Nabhi Oil – At night L/A Tooth Oil – In morning after brushing 32 Herbs Tea – In morning empty stomach	Lukewarm Water (*KoshnaJala*)	Dr Immune Tab : *Adhobhakta* (After Meal), Dr Shuddhi Powder : *Nishikala*

Follow up and Outcome

After 1 month of *Ayurvedic* Treatment the results that were seen are

Table 6 – Outcomes – Objective Parameters

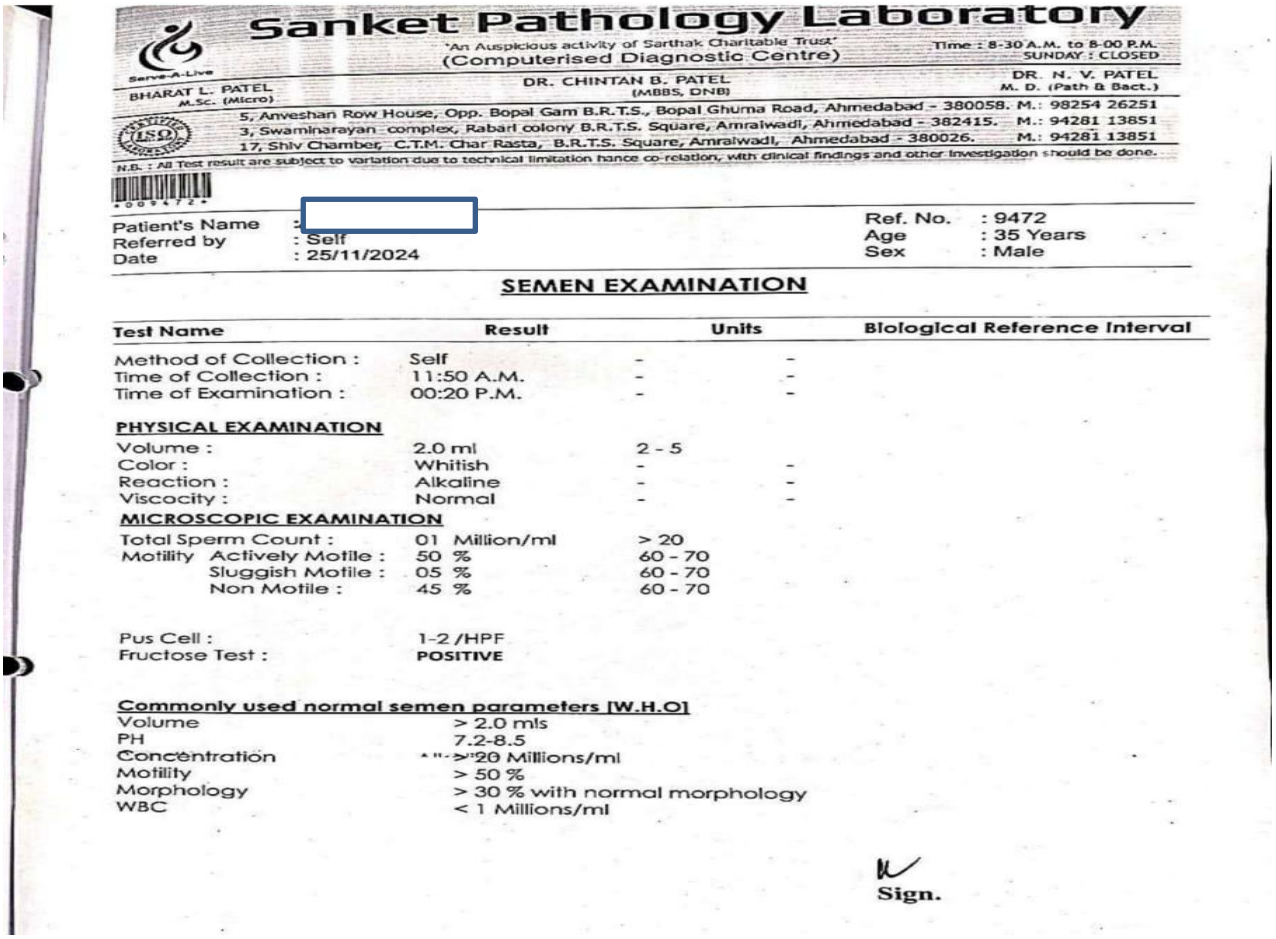
Parameters	**Pre-Treatment (25/11/2024)**	**Post-Treatment (16/01/2024)**
Total Sperm Concentrate	1 mill/mL	35 mill/mL
Sperm Motility:		
PR	50%	70%
NPM	05%	05%
NM	45%	25%
Pus cells/WBC	1-2 /HPF	2-3 /HPF
Fructose	Positive	Positive

The changes in the subjective parameters that were observed are-

Table 7- Outcomes – Subjective Parameters

Parameters	Pre-Treatment	Post-Treatment
Fatigue **Scale**: Fatigue Severity Scale (FSS)	**40 (out of 63, representing significant fatigue)**	**24 (a substantial reduction indicating less perceived fatigue)**
Weakness **Scale**: Medical Research Council (MRC) Scale for Muscle Strength	**3 (moderate muscle strength)**	**4 (good muscle strength)**

Image 1 – Before Treatment – Semen Analysis



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17, Shiv Chamber, C.T.M. Char Rasta, B.R.T.S. Square, Amraiwadi, Ahmedabad - 380026. M.: 94281 13851

N.B. : All Test result are subject to variation due to technical limitation hance co-relation, with clinical findings and other investigation should be done.

Patient's Name : [redacted] Ref. No. : 9472

Referred by : Self Age : 35 Years

Date : 25/11/2024 Sex : Male

SEMEN EXAMINATION

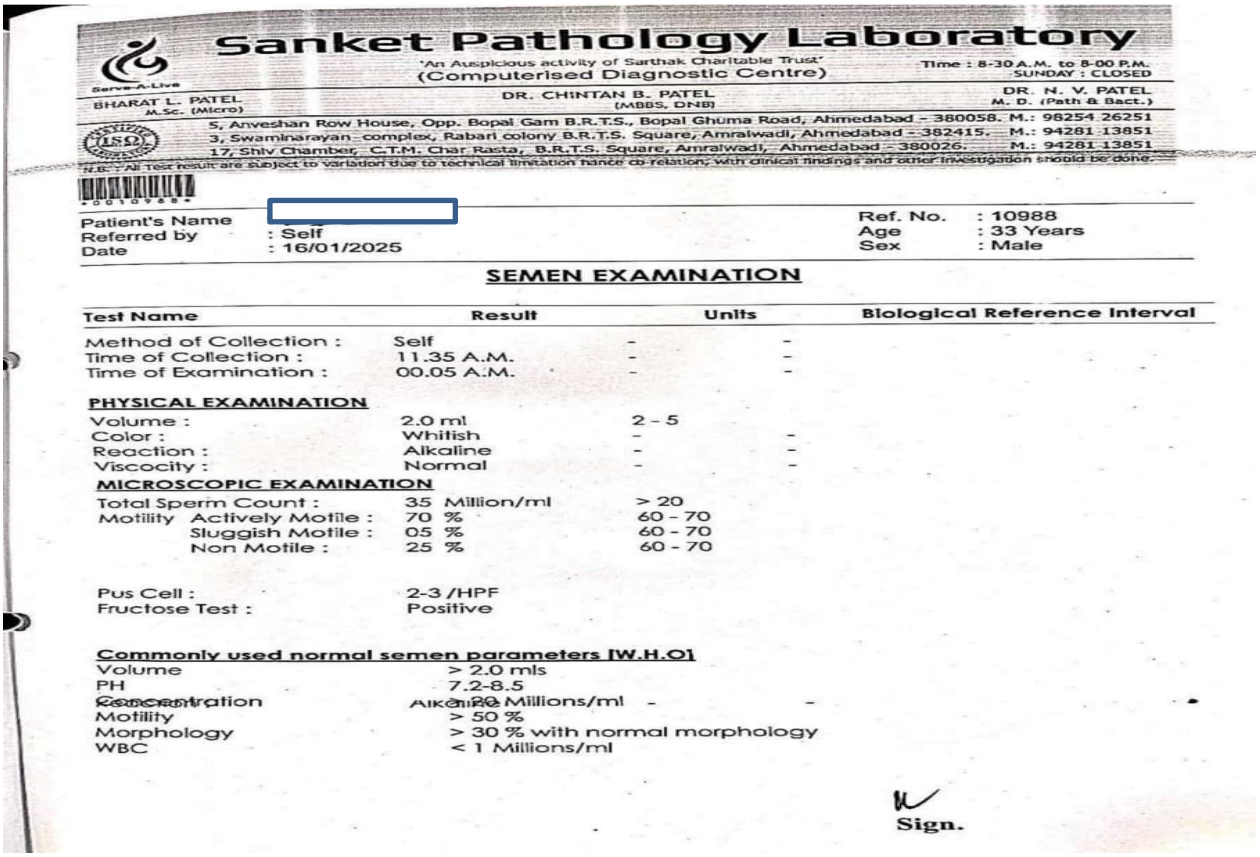
Test Name	Result	Units	Biological Reference Interval
Method of Collection :	Self	-	-
Time of Collection :	11:50 A.M.	-	-
Time of Examination :	00:20 P.M.	-	-
PHYSICAL EXAMINATION			
Volume :	2.0 ml	2 - 5	
Color :	Whitish	-	-
Reaction :	Alkaline	-	-
Viscocity :	Normal	-	-
MICROSCOPIC EXAMINATION			
Total Sperm Count :	01 Million/ml	> 20	
Motility Actively Motile :	50 %	60 - 70	
Sluggish Motile :	05 %	60 - 70	
Non Motile :	45 %	60 - 70	
Pus Cell :	1-2 /HPF		
Fructose Test :	POSITIVE		

Commonly used normal semen parameters [W.H.O]

Volume	> 2.0 mls
PH	7.2-8.5
Concentration	> 20 Millions/ml
Motility	> 50 %
Morphology	> 30 % with normal morphology
WBC	< 1 Millions/ml

Sign.

Image 2 – After Treatment- Semen Analysis



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N.B. : All Test result are subject to variation due to technical limitation hence co-relation, with clinical findings and other investigation should be done.

Patient's Name :
Referred by : Self
Date : 16/01/2025

Ref. No. : 10988
Age : 33 Years
Sex : Male

SEMEN EXAMINATION

Test Name	Result	Units	Biological Reference Interval
Method of Collection :	Self	-	-
Time of Collection :	11.35 A.M.	-	-
Time of Examination :	00.05 A.M.	-	-
PHYSICAL EXAMINATION			
Volume :	2.0 ml	2 - 5	
Color :	Whitish	-	-
Reaction :	Alkaline	-	-
Viscocity :	Normal	-	-
MICROSCOPIC EXAMINATION			
Total Sperm Count :	35 Million/ml	> 20	
Motility Actively Motile :	70 %	60 - 70	
Sluggish Motile :	05 %	60 - 70	
Non Motile :	25 %	60 - 70	
Pus Cell :	2-3 /HPF		
Fructose Test :	Positive		
Commonly used normal semen parameters [W.H.O]			
Volume	> 2.0 mls		
PH	7.2-8.5		
Concentration	Alkaline 20 Millions/ml	-	-
Motility	> 50 %		
Morphology	> 30 % with normal morphology		
WBC	< 1 Millions/ml		

Sign.

9Discussion

Oligospermia, indicated by a sperm count significantly below the WHO standard of 15 million sperm per mL, not only impairs fertility but also potentially affects the psychosocial well-being of individuals. In *Ayurveda*, this condition is conceptualized as *ShukraKshaya,* where *'Shukra'* denotes semen, and *'Kshaya'* refers to a reduction in quality and quantity. According to classical *Ayurvedic* texts, the vitiation of *Vata and Pitta Doshas* along with the impairment of *Shukra Dhatu* (reproductive tissue) underlines the pathophysiology or *Samprapti* of this condition. Lifestyle factors such as diet, sleep patterns, psychological stress and substance use, notably tobacco in this case, significantly contribute to this *Dosha* imbalance, mirroring modern risk factors for oligospermia.

The treatment approach in *Ayurveda* seeks not only to address the symptomatic presentation of a disease but fundamentally aims to disrupt the pathogenic process, known as '*SampraptiVighatana*'. In this case, therapeutic interventions including dietary modifications, lifestyle changes and specific *Ayurvedic* medications aimed to restore the balance of *Vata* and *Pitta Doshas* and enhance *Shukra Dhatu.*

The treatment resulted in remarkable improvement as observed in the follow-up data. Total sperm concentration substantially increased from 1 million/mL to 35 million/mL. The improvement in the motility profile with a significant reduction in non-motile sperm (from 45% to 25%) and an increase in non-progressive motility provide corroborative evidence of enhanced *Shukra* quality. These changes indicate a successful intervention impacting the seminal parameters favourably. Additionally, subjective improvements were significant, with marked reductions in fatigue and enhanced muscle strength, further supporting the systemic benefits of the *Ayurvedic* treatment approach. The mode of action of the formulations used in this disease are as follows

Spermosurge Capsule-Spermosurge Capsule is designed to enhance male reproductive health by leveraging the synergistic effects of its multiple herbs. ***Argyreia nervosa*** enhances libido and testosterone levels, ***Tribulus terrestris*** promotes sperm production and sexual drive, ***Leptadeniareticulata*** supports overall vitality, ***Withania somnifera*** (*Ashwagandha*) is known for its stress-reducing and fertility-enhancing properties. ***Mucuna pruriens*** boosts dopamine levels, potentially improving mood and libido. ***Hygrophilaauriculata*** and ***Sida cordifolia*** are reputed for their aphrodisiac and rejuvenative properties respectively. Collectively, these ingredients aim to increase sperm count and motility, enhance sexual desire and improve overall reproductive health.

AshwagandhaGhanVati : *AshwagandhaGhan Vati* primarily works by reducing stress and increasing antioxidant levels within the body. ***Withaniasomnifera***, the main ingredient, has adaptogenic properties that helps to modulate stress responses, vital for improving sperm quality and count undermined by oxidative stress. It also may enhance testosterone production, key in treating conditions like oligospermia, while improving overall mental health and physical stamina.

Tab PunarnavaGhanVati : *PunarnavaGhan Vati* acts primarily as a diuretic and rejuvenative tonic. ***Boerhavia diffusa*** *(Punarnava)* helps in reducing fluid retention and swelling, effectively detoxifying the body and promoting vital organ functions — particularly of the liver, heart and kidneys. This detoxifying effect is crucial for eliminating toxins that can affect hormonal balance and reproductive health.

Ge-Liv forte Syrup: Ge-Liv forte Syrup combines various herbs to support liver function, aids in digestion, and enhances detoxification. Ingredients such as ***Eclipta prostrata*** and ***Phyllanthus amarus*** are well-known hepato-protectives which improve liver health.

Andrographis paniculata and ***Picrorhiza kurroa*** boosts the immune system and supports digestion, enhancing overall nutrient absorption and health. ***Embelia ribes*** and ***Operculina turpethum*** have purgative properties contributing to the detoxification, important in clearing pathways that impact hormonal balances crucial for reproductive health.

Spermatozoa BLK Spermatozoa BLK combines several herbs that aid in improving sexual function and enhancing fertility. ***Avena sativa*** is thought to free bound testosterone, enhancing available testosterone levels, thereby potentially increasing libido. ***Turnera diffusa*** and ***Pausinystalia yohimbe*** boosts erectile function and sexual arousal. ***Cinchona officinalis*** can help with muscle strength and coordination, enhancing general vitality, while ***Vitexagnus-castus*** regulates hormone levels, balancing reproductive hormones which can improve overall sperm health. This formulation aims to synergistically support sexual health and improve sperm parameters significantly. There are some studies in this similar disease that give us good data regarding the use of alternative medicines, these are as follows. Smith et al found that lifestyle interventions, including dietary adjustments, weight loss and reduced exposure to environmental toxins, led to significant improvements in sperm count and motility in men diagnosed with oligospermia.[12]The analysis by Majzoub and Agarwal reviewed several studies demonstrating that antioxidant supplementation in men with oligospermia could improve sperm quality by reducing oxidative stress.[13]Rossi et al wrote this systematic review concluded that supplementation with *Ashwagandha* improved sperm count, motility and morphology, thereby enhancing male fertility in patients with oligospermia.[14]Ferramosca et al in this study showed that men receiving these supplements experienced increased sperm motility and enhanced antioxidative defence, suggesting that targeted nutritional support could be beneficial in managing oligospermia.[15]Disanayake et al while primarily focusing on animal models, this research indicated that zinc supplementation improved testosterone levels and overall sexual behaviour, which correlates with improved sperm production in oligospermic males.[16]

Need for Further Research

Despite advancements in treating oligospermia, there remains a substantial need for further research to fully understand and address the multifaceted nature of this condition. Future studies should aim to elucidate the underlying genetic, environmental and

physiological contributors to oligospermia, exploring the interactions between lifestyle factors and genetic predispositions. Additionally, investigating the long-term efficacy and safety of various treatments, such as *ayurvedic* supplements and lifestyle modifications, across diverse populations is crucial. There is also a pressing need to develop more personalized medical interventions that consider individual differences in the pathophysiology of oligospermia. Enhanced research collaboration across disciplines, including urology, endocrinology and molecular biology, can foster innovative therapies, potentially improving treatment outcomes for affected individuals globally.

Conclusion

In conclusion, the presented case study of a 35-year-old male with oligospermia, treated through an integrative *Ayurvedic* approach, demonstrates significant improvements in both subjective and objective parameters. Pre-treatment, the patient had a sperm concentration of 1 million/mL, which post-treatment, increased dramatically to 35 million/mL. Additionally, the motility improved with actively motile sperm increased from 50% to 70%, non-progressive motility remained stable at 5%, and non-motile sperm reducing from 45% to 25%. Subjective health parameters also showed considerable enhancement; the Fatigue Severity Scale score decreased from 40 to 24, and the MRC Scale for Muscle Strength improved from 3 to 4. These outcomes not only highlight the potential of *Ayurvedic* medicine in improving sperm quality and overall vitality but also underscore the importance of a holistic treatment protocol that addresses lifestyle and dietary factors alongside targeted *ayurvedic* interventions. This case study reinforces the need for further clinical exploration and validation of traditional approaches within the context of modern reproductive health challenges, potentially offering wider treatment options for male infertility issues like oligospermia.

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