



## **Contribution of Ayurveda in the Management of Ksheena Shukra Vikara with Special Reference to Asthenozoospermia: A Case Report**

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### **Authors' contributions**

*This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.*

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**Case Study**

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### **ABSTRACT**

**Background:** Male Infertility is one of the burning issues now a day's nevertheless disregarded reproductive health problems in India. Incidences of this issue expands day by day because of the disturbing lifestyle pattern. Almost 30-40-% of infertility cases found to be related to male factor. Asthenozoospermia is the most common identifiable anomaly related to male infertility found in semen analysis having reduced motility of sperm.

**Aim and Objectives:** To assess the efficacy of Ayurvedic management (*Shodhana* and *Shamana Chikitsa*) in the management of *Ksheena Shukra Vikara* w.s.r. to Asthenozoospermia.

**Methods:** It is a single case study. A 33-year-old male patient who was already diagnosed with Asthenozoospermia for three years approached to Pancharkarma OPD. Sperm motility was only 12%. The patient was treated with *Shodhana Chikitsa* (*Vamana* and *Virechana* with *Mahatiktaka Ghritapana* and *Dashmooladi Niruha Vasti* and *Uttarvasti* with *Vidaryadi Ghrita* followed by *Shamana Chikitsa* (Tab Neo Charak Pharmacy, Tab Addyzoa, *Chandraprabha Vati*, *Paripathadi*

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*Kashaya, Ashwagandhadi Yamaka, Avipattikar Churna*) approximately 3 months. After 3 months, patient-reported improvement.

**Results:** Assessment of the patient with clinical symptoms and sperm analysis report was done following 3 months. Sperm motility increased up to 40% with increment in sperm count.

**Conclusion:** This case report provides us a guideline that infertility associated with Asthenozoospermia can be treated successfully by adopting basic Ayurveda *Siddhanta*'s.

**Keywords:** *Ksheena shukra vikara; asthenozoospermia; shodhana; uttaravasti and shamana chikitsa.*

## 1. INTRODUCTION

Infertility is characterized as failure of a couple to conceive following a year of regular intercourse without utilizing any contraception. Male infertility implies inability to cause a pregnancy in a very fertile female [1]. Male infertility is one among the burning problems currently nevertheless disregarded reproductive health problems in India. Incidences of this issue expands day by day in light of the disturbing lifestyle pattern.

Nearly 30-40% of infertility cases found to be identified with male factor [2]. Infertility influences nearly 8-12% of couples normally [3]. Infertility is caused either by male factor, male factors, or may unexplained causes. Infertility influences 2.5% to 12% of men and male issue globally contribute around 40-50% in cases failing to conceive a child [4]. In India, couple seeking treatment for male infertility is that the cause is approximately 23% [5].

Asthenozoospermia is the most common identifiable anomaly related to male infertility found in semen analysis implies the motility of spermatozoa is lower than 50% of active motile sperms [2]. In Ayurveda, eight types of *Shukra Dushti* are mentioned viz *Vataja, Pittaja, Kaphaja, Granthibhuta, Putipuyanibham, Mutrapurishagandhi* and *Ksheena* [6]. Acharya Sushruta clearly characterizes the condition of *Ksheena Shukra Vikara* as diminution of semen quality along with reduced motility. It is enclosed in one among the varieties of *Astha Vidha Shukra Dushti* having vitiation of *Vata* and *Pitta Dosh*a which may prompt to male infertility [7].

In conventional medication, numerous choices for primary infertility are accessible ranging from drugs to IVF with their own limitation [8]. While Ayurveda has extended horizons of management for infertility that works as fast heal for complex infertility issues. Ayurveda had depicted *Shamana* and *Shodhana Chikitsa* for the management of *Shukra Dushti*. Amongst them

*Apyayana* (nourishment of Dhatus), *Prasadana* (Detoxification process), *Upachaya* (drugs that aids spermatogenesis) and *Janana* (regenerative drugs) are essential standard methodologies for its management [9]. This line of management give emphasis on Dhatu *Vridhikara, Balakara, Shukrajanaka* and *Shukrapravartaka* perspective regarding expanding the sperm count and motility by utilizing *Vajikarana Dravya*.

The concept of *Vajikarana*, as represented within the texts of Ayurveda, is a special category of treatment modalities which improve the reproductive system and upgrade sexual functions, it offers an answer to attenuate *Shukra* defects and to guarantee a healthy progeny. Before administration of *Vajikarana* medication, *Shodhana Karma* ought to be done as to get desired result of treatment [10]. Thus, *Shodhana Karma* have been kept in preminent veneration by Ayurveda in enhancing various assortments of *Shukra Dushti*. According to these principles, it is advocated to utilize *Shamana* therapy after performing *Shodhana Karma* counting on the state of the patient.

### 1.1 Aim and Objective

To assess the efficacy of Ayurvedic management (*Shodhana* and *Shamana Chikitsa*) in the management of *Ksheena Shukra Vikara* w.s.r. to Asthenozoospermia.

## 2. MATERIALS AND METHODS

A single case study

### 2.1 Case History

A 33-year-old male resident of Hinghanghat, Wardha district, Maharashtra, social worker by occupation, moderately build, married for 4 years, was apparently healthy before 2015, then he started complaining of failure to conceive even after active married life, his 29-year-old wife had regular menstruation cycles. She had no

significant past or family history of reproductive tract disorders and pelvic infections and had not undergone any surgical procedures since birth. But there was issue to conceive. So, they approached to Gynecologist, in the routine checkup, report if wife was normal but he was diagnosed as Asthenozoospermia. Simultaneously, he as suffering from generalized weakness for 1 year. Patient is having history of Grade I fatty liver for the last 1 year. Patient had also taken allopathic medicine for failure to conceive from different private practitioners, didn't got satisfactory relief. So, he approached to Panchakarma OPD, Mahatma Gandhi Ayurved College Hospital & Research Centre, Wardha, Maharashtra (OPD No. – 1912180006) for ayurvedic treatment and he was advised for admission and appropriate Panchakarma treatment were prescribed to him. Patient was not taking any medication for any systemic disorders like hypertension, diabetes mellitus etc.

### 2.1.1 Past History

There was history of Mumps at the age of 5 year. No history of sexually transmitted infections (STI), Tuberculosis, Filariasis. No history of trauma/ exposure to any chemical/ surgical procedures involving the inguinal and scrotal areas.

### 2.1.2 Personal History

Food habits: Mixed diet, twice daily, irregular interval of food, craving for *Atitakta* (spicy foods), *Atilavana Ahara* (excessive salt).

Sleep: Sound sleep

Addiction: No any addiction

### 2.1.3 Family History

Not significant

## 2.2 Clinical Examination

Vitals examination of the patient within normal limit and *Asthavidha Parikshawas* mentioned in Table 1. The physical examination of the genitalia in the male partner revealed no any anatomical abnormalities and there was no signs of inflammation, ulceration or rashes of testes or penis. Temperature was found normal. The position and size of the testes was normal.

- **Nidana Panchaka: Hetu** (Etiology or Causative factors): History of Mumps and

having Grade I fatty liver were considered as prime causative factor for Asthenozoospermia. Dietary products include Poha, Biscuits, Roti, Rice, Dal, intake of excessive spicy and salty foods, daily intake of stale foods, irregular timing of food intake.

- **Purvarupa** (Prodromal symptoms): Generalized weakness, unsatisfactory bowel habit
- **Rupa** (Manifestation): Failure to conceive, generalized weakness.
- **Upashaya** (Relieving factors): Consuming *Pathya Ahara*
- **Samprapti** (Patho-physiology of the disease): Due to the causative factors, amongst them Mumps is the major factor for infertility. Liver disorder hampers the regulation of testosterone in body resulting in decrease plasma testosterone concentration. Excessive intake of spicy and salty foods leads to *Shukra Upashoshana* and generalized weakness leads to *Rasa Dhatu Dushti*. This will simultaneously lead to vitiate *Vata* and *Pitta Dosha* causing vitiation of *Jatharagni* and faulty dietary habits leads to improper formation of *Rasa* and subsequently leads to *Rasa Dhatu Kshaya* which results in *Uttarottara Dhatu Kshaya* [11] and hence, the production of *Shukra Dhatu* is hampered and semen quality diminishes which ultimately results in *Ksheena Shukra Vikara* w.s.r. to Asthenozoospermia.
- **Investigations done:** Routine hematological and urine examination was carried out to assess the present status of the patients and to exclude other pathologies. LFT report suggest Grade I fatty liver, Semen analysis reveals Normospermia with reduced motility, hence was diagnosed with *Ksheena Shukra Vikara* (Asthenozoospermia).
- **Samprapti Ghatak:**  
*Dosha – Vata (Apana, Vyana), Pitta (Pachaka, Ranjaka)*  
*Dushya – Rasa, Shukra*  
*Srotas – Rasavaha, Shukravaha*  
*Sroto Dushti – Sanga*  
*Rogamarga – Abhyantara*

*Agnimandya – Ama, Jatharagnimandya, Shukradhatvagnimandya*  
*Udbhavasthana – Aamshaya and Pakwashaya*  
*Sanchara Sthana – Vrsana, Sarvasharira*  
*Vyakta Sthana – Vrsana, Shishna*

**2.3 Treatment Advised**

By over viewing the pathogenesis of disease in this patient following treatment plan was prescribed which can be sub classified under two categories i.e. *Shodhana* and *ShamanaChikitsa* shown in table no 2 and 3 respectively. Patient was also advised to modify lifestyle including *Pathyapthya* (dietary restrictions) and *Bhramhacharya* (refraining from masturbation and sexual intercourse) during the course of

treatment. The patient was advised to intake cowmilk, cow ghee, soup of goat meat, banana, coconut, garlic, black gram, etc.

**3. OBSERVATIONS AND RESULTS**

After completion of 3months of total Ayurvedic therapy (*Shodhana* and *Shamana Chikitsa*). Patient was assessed based on semen analysis before and three months after the treatment. After the treatment, total sperm count was increased to 70 million/ml and there was also increase in sperm motility. It is observed that 40% were actively progressive, 20% were slowly progressive and 40% were non motile. Details of the investigations carried out before and after the treatment were mentioned in Table 4 and shown in Fig. 1.



**Fig. 1. Semen Analysis report**

**Table 1. Ashtavidha Pariksha**

Nadi (Pulse)	74/min
Mala (Stool)	Asamyak (Unsatisfactory bowel habit)
Mutra (Urine)	Samyak
Jivha (Tongue)	Saam
Shabda (Speech)	Spashta
Sparsha (Skin)	Anushnasheeta
Drika (Eyes)	Prakruta
Akriti (Posture)	Madhyama

**Table 2. Shodhana Chikitsa**

S.No.	Type of Chikitsa	Drugs	Duration
1.	<i>Deepana- Pachana</i>	<i>Amapachaka Vati</i> 250mg 2 BD Before food	3 days
2.	<i>Arohi Snehapana</i>	<i>Mahatiktaka Ghrita</i>	7 days
3.	<i>Sarwanga Abhyanga</i> followed by <i>Petisweda</i>	<i>Dashmoola Taila</i>	1 day
4.	<i>Vamana</i>	<i>Madanphala Yoga (Madanphala 5 gms + Saindhava 3 gms+ Honey q.s, followed by Yashtimadhu Phant)</i>	1 day
5.	<i>Samsarjana Krama</i>	<i>Peyadi Krama</i>	7 days
6.	<i>Arohi Snehapana</i>	<i>Mahatiktaka Ghrita</i>	3 days
7.	<i>Sarwanga Abhyanga</i> followed by <i>Petisweda</i>	<i>Dashmoola Taila</i>	2 days
8.	<i>Virechana</i>	<i>Abhyadi Modaka 3 tab (125 mg) + Triphala Kwatha (50 ml) + Eranda Taila (50 ml)</i>	1 day
9.	<i>Samsarjana Krama</i>	<i>Peyadi Krama</i>	3 days
10.	<i>Yogavasti</i>	<i>Niruha Vasti (Dashmoola Kwath 700 ml + Saindhava lavana 10gms, Madhu 15 gms, Dhanvantara Taila 30 ml) followed by AnuvasanaVasti with Dhanvantara Taila 100 ml</i>	8 days
11.	<i>Uttarvasti</i>	<i>Vidaryadi Ghrita</i> 50 ml	5 days (Alternate)

**Table 3. Shamana Chikitsa**

S.No.	Drugs	Dose	Time of Administration	Anupana	Duration
1.	Tab Neo (Charak Pharma)	1-tab BD	After food	Lukewarm water	1 ½ months
2.	Tab Addyzoa (Charak Pharma)	1-tab BD	After food	Milk	1 ½ months
3.	<i>Chandraprabha Vati</i> (Dhootapapeshwar Pharma)	250 mg 2 BD	Before food	Lukewarm water	1 ½ months
4.	<i>Paripathadi Kashaya</i> (Sandu Pharma)	15 ml BD	After food	Lukewarm water	1 ½ months
5.	<i>Ashwagandhadi Yamaka</i> (AVS Kottakkal)	10 ml OD	Before food	Lukewarm water	1 ½ months
6.	<i>Avipattikar Churna</i> (Baidyanath Pharma)	10 gm HS	Bed time	Lukewarm water	1 ½ months

**Table 4. Assessment of Semen Analysis**

S.No.	Assessment Parameter	Before treatment	After Treatment
1.	Volume	2 ml	2 ml
2.	Color	Pale Opaque	Milky White
3.	Reaction	Alkaline	Alkaline
4.	Liquefaction time	Within half an hour	Within half an hour
5.	Total Sperm Count	40 million/ml	70-80 million/ml
6.	Motility – Actively Progressive	8 million/ml (12%)	18 million/ml (40%)
7.	Slowly Progressive	20 million/ml (43%)	11 million/ml (20%)
8.	Non motile	20 million/ml (45%)	18 million/ml (40%)
9.	Morphology	Normal	Normal
10.	Pus cell	4-6/ hpf	1-2/ hpf

#### 4. DISCUSSION

By taking into account of all the components related with *Nidana Panchaka* in this patient, the treatment guideline of *Ksheena Shukra Vikara* was adopted by utilizing essential standard of Ayurveda and significant result was observed, as per classics, the management of *Ksheena Shukra Vikara* mainly focuses on *Shukrajanaka* and *Shukrapravartaka* regarding expanding the sperm count and motility by utilizing *Vajikarana Dravya* having properties like *Madhura* (sweet), *Sheeta* (cold) and *Snigdha* (unctuous) [12]. The *Agneya Guna* of *Pitta Dosh*a together with *Chala Guna* of *Vata Dosh*a is inflicting decreased motility, in *Ksheena Shukra*. In this way, to treat *Ksheena Shukra Vikara*, *Vajikarana* treatment is conferred having *Brimhana* and *Balya* impact, anyway *Vajikarana* medications ought to be utilized after *Srotoshuddhi* and detoxification of body. The probable mode of action of recommended treatment may be explored as follows:

- **Deepana and Pachana with Amapachaka Vati:**

Induces *Pachana* at gastrointestinal as well as *Dhatu* level (cellular and tissue level) and corrects *Jathargni* as well as *Dhatvagni* which is hampered because of Mumps and *Rasa Dhatu Kshaya*.

- **Arohi Snehapana with Mahatiktaka Ghrita:**

*Arohi Snehapana* initiates cellular biotoxins i.e. *Bahudosha* into *Kostha* which turned out to be simple for elimination through *Vamana* and *Virechana*. *Mahatiktaka Ghritapana* improves digestion, purifies blood. The medications employed in this preparation clams the *Vata* and *Pitta Dosh*a. It is good appetizer, acts as liver stimulant consequently useful in liver disorder [13].

- **Vamana with Madanphaladi Yoga:**

*Shodhana* has direct impact on metabolism. As *Shukra* is a *Sara* of all *Dhatu*s in the event that *Rasa Dhatu* development isn't appropriate, at that point *Uttarottara Dhatu* (consequence tissue) will not be nourished appropriately. *Vamana* helps to purifies *Rasa*, *Rakta* as well as *Kapha* and *Pitta Dosh*a and also open the

occluded channels within the body and thus enhances the quality and quantity of *Shukra*.

- **Virechana with Abhayadi Modaka, Triphala Kwatha and Eranda Taila:**

*Shukra* is *Saumyahaving Jala Mahabhuta Pradhanta*. Here, pathology incorporates diminished sperm motility alongside low count. Motility i.e. *Chalatva* is attribute of *Vata* which gets vitiated resulting in pathology of low motility and reduced count is because of involvement of *Pitta Dosh*a because it possesses *Agneya Guna* which is opposite to *Saumya Guna* of *Shukra* so as to evacuate the vitiated *Pitta* and *Vata Dosh*a, *Virechana* is administered. Acharya Kashyapa has underlined the role of *Virechana Karma* (purgation) for the *Shukravaha Srotoshodhana*, purification of the *Beeja* (sperm), as it makes *Beeja* effective in achieving fertilization. It additionally improves sexual vigor and aides in accomplishing sound progeny [14]. *Virechana* also facilitates *Dhatvagni* *Deepana* and helps in improving the liver function which plays a significant role in controlling the plasma testosterone concentration in the body [15].

- **Yogavasti: Yogavasti** induces *Vatanulomana* in body and maintain the harmony of *Tridosha* which are disturbed due to causative factors. With the assistance of various medicated decoction and oil it additionally provides strength to *Katisthana* which is the vital site of reproductive organs.

- **Uttarvasti with Vidaryadi Ghrita:**

*Uttarvasti* is a method of introducing medicine into genitourinary tract by prescribed technique. *Vidaryadi Ghrita* is having properties of *Madhura Rasa* and *Madhura Vipaka* which pacifies *Vata* and *Pita Dosh*a, provides *Brimhana* and *Balya* effect and is indicated in *Sosha* (emaciation), *Dhatu Kshaya* [16]. The pharmacokinetics of *Uttarvasti* can be described as in two ways: First by local action, after the administration of *Uttarvasti*, it softens and loosen the genital muscle and membrane, acts as lubrication, which helps to increase motility. Second by

systemic action, it releases endogenous opioids in ENS which is richly supplied by parasympathetic nerve and gives signal to CNS which release Gonadotropin releasing hormone (GnRH1) from hypothalamus and Follicle stimulating hormone (FSH) and Luteinizing hormone (LH) from Pituitary gland and helps to stimulate sperm production. *Uttarvasti* also relaxes spongy tissues and increase blood flow to penis which acts as regulatory factor for libido an erection [17].

#### 4.1 Shamana Chikitsa

- **Tablet Neo:**

Tablet Neo is a proprietary Ayurvedic medicine manufactured by Charak Pharmaceuticals. *Kapikachhu*, *Bhringaraja*, *Shatavari* and *Yashtimadhu* are the main ingredients having adaptogenic property. It helps in pacifying nervine impulses, promotes decongestion of genitalia and prostrate and diminishes sexual irritability [18].

- **Tablet Addyzoa:**

Tablet Addyzoa is a proprietary Ayurvedic medicine manufactured by Charak Pharmaceuticals. Addyzoa is a herbomineral spermatogenic antioxidant. Addyzoa tablet has varied free radical scavenging action and hence, Addyzoa limits successfully the damage to the sperm cells because of reactive oxygen species (ROS). *Withania somnifera*, *Tinospora cordifolia* and *Emblica officinalis* are potent antioxidants in Addyzoa, which acts by lessening the excessive oxidative stress, which is answerable for sperm damage. *Shuddha Shilajit*, *Mucuna pruriens* and *Withania somnifera* improves sperm count. *Asparagus racemosus* recovers seminiferous tubules and builds spermatogenesis. In this way, Addyzoa improves sperm count, motility and morphology and furthermore increases semen density [19].

- **Chandraprabha Vati:**

*ChandraprabhaVati* is a herbomineral compound preparation, which is choice of drug for urinary tract infections and

furthermore improves the functioning of male reproductive organs [20]. It does *Apananulomana*, acts as a spermatopoietic specialist, serves to rejuvenate the body, increases strength, appetite and *Oja* and has been accounted for to have enormous free radical scavenging activity [21].

- **Paripathadi Kashaya:** it is indicated in post febrile burning sensation and does *Pachana* at tissue level hampered because of Mumps infection [22].

- **Ashwagandhadi Yamaka:** It nourishes *Rasaparinata Shukra Dhatu*, acts s *Shukra Janaka* and *Shukra Pravartaka*. *Ambiye V* et.al. expressed that *Ashwagandha* significantly increases the sperm cell concentration [23] and overall motility and a number of other studies urged it inverts semen quality even in barren men [24].

- **Avipattikar Churna:** It regularizes *Apanavata* and function of *Shukravaha Srotas*. Also, it eradicates *DushitPitta* which is causative factor of *Shukra Kshaya* [25].

There are very few studies reflecting on male infertility [26,27]. Studies of *Pargaonkar et al.* [28], *Khan et al.* [29], *Abbfati et al.* [30] and *Quazi et al.* [31] were reviewed.

By taking all the above discussion into consideration that the overall effect of all treatment regime planned in this patient instigates *Srotoshuddhikar*, *Vatapittaghna*, *Amanashaka*, *Vajikarana*, *Brimhana* and *Balya* effects, that improves the nature of semen, increasing its motility along with increment in sperm cell count.[32-36]

#### 5. CONCLUSION

After the completion of treatment, patient had got satisfactory outcome. *Srotoshuddhi*, *Dhatvagni Deepana*, development of new *Shukra Dhatu* are accomplished by *Shodhana Karma*. Because of improved status of *Dhatu*s and further because the action of ingredients demonstrated increased sexual desire, erectile and ejaculatory function, duration of coitus, sexual satisfaction. This case report provides us a guideline that infertility related with *Asthenozoospermia* can be dealt effectively by embracing basic Ayurveda *Siddhanta's*. the current study is about the

presentation of the single case only. Further study in large sample size must be recommended for establishing good and standard outcome.

## DISCLAIMER

The products used for this research are commonly and predominantly use products in our area of research and country. There is absolutely no conflict of interest between the authors and producers of the products because we do not intend to use these products as an avenue for any litigation but for the advancement of knowledge. Also, the research was not funded by the producing company rather it was funded by personal efforts of the authors.

## CONSENT AND ETHICAL APPROVAL

As per international standard or university standard guideline patients consent and ethical approval has been collected and preserved by the authors.

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## COMPETING INTERESTS

Authors have declared that no competing interests exist.

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