

OLIGOSPERMIA - A CASE STUDY IN CONTEXT OF SPERMATOGENIC ACTIVITY OF RASASINDURA***Namdev Vanganekar¹, Shivanand Biradar², Prashant Bedarkar³ and Prajapati PK⁴**¹M.D Scholar, Department of Rasashastra and Bhaishajya Kalpana Including Drug Research.²PhD Scholar, Department of Rasashastra and Bhaishajya Kalpana Including Drug Research.³Assistant Professor, Department of Rasashastra and Bhaishajya Kalpana Including Drug Research.⁴Professor, Department of Rasashastra and Bhaishajya Kalpana Including Drug Research, Director, IPGT & RA, Jamnagar.**Corresponding Author: Dr. Namdev Vanganekar**

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ABSTRACT

Anatomical and physiological variation in Shukra Dhatu leads to infertility. Oligospermia is one of the major leading causes of infertility. Rasasindura is a very pure and essence drug increases the essence in human body. The patient having erectile dysfunction, premature ejaculation and lack of sexual desire is administered with Rasa sindura in a dose of 125 mg along with Ashvagandha and Gokshura churna. The sperm count was increased from 9mil/ml to 54 mil/ml after treatment along with increased sperm motility. Gandhaka Jarana while preparation of Rasa sindura augments the aphrodisiac properties. Rasasindura along with Ashvagandha and Gokshura shows significant improvement in the sperm count and motility. As Apana Vata is responsible for the proper expulsion of Shukra, so medicines are given at Apana kala. Rasasindura along with Ashvagandha and Gokshura with Goghrit has shown significant increase sperm count, improvement in erection dysfunction and sexual desire.

KEYWORDS: Rasasindura, Kshina shukra, Oligospermia.**INTRODUCTION**

Nature always doing better for all living being; but very due to present life style, there has been a drastic change in day to day activities including life style, food habits, sexual life, meditation, environmental pollution, industrial and occupational hazards and these changes have adverse effect on *Shukra Dhatu* which leads to infertility. According to Ayurveda, *Shukra* is the terminal tissue element of the body. It is considered as the *Sara* of all other *Dhatu*.^[1] It is *Shadrasatmaka* and composed of *Vayu*, *Agni*, *Jala* and *Prithvi Mahabhuta*. in the state of their excellence. All these factors individually share one fourth of the attributes of each of *Mahabhuta*.- It is included in *Kaphavarga dravya*^[3] and ten *pranayatana*.^[4] All the classical text accepted total 8 types of *Shukradushti*.^{[5][6]} Acharya Bhela has mentioned 7 types of *Shukradushti*. While describing the *dushti* associated with *Shukra* and *Artava*, *Kshina Shukra* as a pathological condition caused by vitiated *vata* and *pitta* as "*Kshinam maruta pitta*".^[7] Oligospermia or synonymously oilgozoospermia highly resembles *Kshina Shukra*, is a condition in which sperm count is get reduced. WHO (1992) describes the condition as the one in which total sperm count will be less than 20 million / ml.^[8] However *Kshina Shukra* is a condition in which *Shukra Dhatu* is reduced both quantitatively and qualitatively. Disturbed daily routine, food habits, mental stress and busyness on

account of fast life are affecting *Shukravaha Srotas* adversely. The adverse effect on *Srotas* generates a condition called *Kshina Shukra*. The present work is to outline the highlight the spermatogenic activity of *Rasasindura*,

CASE REPORT

A 28yrs old male with normal BMI was presented with premature ejaculation, erectile dysfunction, lack of sexual desire, general debility and fatigability since two years. Personal history revealed that he is bicycle mechanic by occupation and without any addiction, got married 2 yrs ago. His wife failed to conceive in spite of frequent intercourse (average not less than twice a week) even during 12-16th day of menstruation. The only measure of contraception adopted was condoms which were used less frequently and it wasn't used since 1 year. He got his semen analysis done from approved medical pathology laboratory, as per advice of General Physician. He came in OPD of PG hospital, IPGT and RA with report of semen analysis for consultation and further treatment. Report of Semen analysis revealed oligozoospermia with other pathologies like reduced motility, non motile sperms and abnormal forms (Table 1). His personal history revealed no major stress. He was not having Past medical history of Mums, Tuberculosis, Orchitis, Hydrocele, Diabetes, fever (in

last 2 years), Systemic arterial Hypertension, trauma to gonadal parts, or history of any other long term debilitating disorder or life threatening emergency. He was not having history of previous surgical interventions like Hydrocele, herniorrhaphy, varicocele, vasectomy reconstruction and no history of consumption of gonadotoxic agents (Cyclophosphamide, Sulphasalazine, Ranitidine/ Cimetidine, Androgenic steroids) or use of any medication for prolonged period. He wasn't on any other concomitant treatment/ drugs. Obstetric History of wife revealed that she was nullipara, no misabortions/ miscarriages, regular and normal menstrual history, no history of surgical interventions, no significant past medical illness and no history of consumption of long term drug treatment. There was no tenderness or signs of inflammation or enlargement of scrotum/ gonadal parts (epididymis) and no palpable and tender inguinal lymphadenopathy in local examination. There was no significant psychological disorder affecting daily routine or social behavior/ family or social relationship. Systemic examination didn't revealed any significant abnormality. His occupation, daily routine, lifestyle was similar as that of in last 2 years till the follow up period. He was diagnosed as case of Oligospermia and was prescribed with *Samguna Rasasindura* in the, *Ashvagandha Churna* and *Gokshura Churna*. Sperm count increased from 9mil/ml to 54mil/ml after above treatment. Percentage of Actively Motile and Non-motile sperms increased and Decreased respectively by 10% and abnormal forms decreased by 1% after treatment of three months. (Table-1) There was also an improvement in Erectile dysfunction, premature ejaculation and general debility.

AYURVEDA TREATMENT

Samaguna Rasasindura - 125mg

Ashvagandha Churna - 2gm

Gokshura Churna - 500mg

Above drugs mixed well and triturated for about two hours.

Duration of Treatment

2 months.

Drug administration time

Apana Kala (Half hour before lunch and dinner).

Adjuvant

Cows ghee.

PREPARATION AND QUALITY CONTROL OF RASASINDURA

Raw materials were procured from Pharmacy, Gujarat Ayurved University, Jamnagar. *Rasasindoor* sample was prepared in Department of *Rasashastra & Bhaishjyakalpna*, IPGT &RA, Jamnagar in EMF following standard manufacturing process.^[9] Prepared *Rasasindura* subjected to various organoleptic and physicochemical analyses like texture, colour, taste, odour, pH, ash value, acid-insoluble ash, water-soluble ash, loss on drying and percentages of mercury, free mercury, sulphur and free sulphur. (Table 2 & 3). *Rasasindoor* is shown to contain mercury sulphide (crystalline in nature with crystallite size ranging from 25 to 50 nm) associated with several organic macromolecules derived from the plant extract used during the processing of the drug.^[10]

Table 1: Examination of Seminal Fluid

Test	Before Treatment	After Treatment
Method	Masturbation	Masturbation
Abstinence	3 days	4 days
Collected At	09:35 A.M	4:40 P.M
Examined At	09:55 A.M	5:00 P.M
Physical Examination		
Quantity	2.00 ml	2.50 ml
Colour	Grey White	Grey White
Odour	Normal	Normal
Viscosity	Viscid	Viscid
Liquefaction	Within 20 min.	Within 20 min.
Reaction (pH)	Alkaline	Alkaline
Microscopic Examination		
Total Sperm Count	09 mil/ml	54 mil/ml
Sperm Motility		
Actively Motile	30%	40%
Sluggishly Motile	20%	20%
Non-Motile	50%	40%
Abnormal Forms	16%	15%
Other Abnormalities		
Pus Cells	Absent	Absent
R.B.C Cells	Absent	Absent
Epithelial Cells	Absent	Absent

Table 2: Results of organoleptic tests

Parameter	Rasasindura Sample
Texture	Compact
Colour	Vermillion
Taste	Tasteless
Smell	Indistinct

Table 3: Results of physicochemical tests

Test	Rasasindura Sample
pH value	6.45
Ash Value	0.09%
Acid-insoluble ash	0.05%
Water-soluble ash	0.01%
Loss on drying	0.23%
% mercury	83.78%
% free mercury	Nil
% sulphur	13.09%
% free sulphur	Nil

DISCUSSION

Kshina Shukra as a pathological condition caused by vitiated Vata and Pitta. So Vata Pitta Shamaka drugs helps in Samprapti vighatana of Kshina Shukra.

Rasasindura is a mercurial preparation comprises mercury and sulphure. Mercury is treated with the process of Gandhaka Jarana, becomes highly potentiated. It acquires many pharmaco-therapeutic properties, including the aphrodisiac properties and increases the sexual performance of male partners.^[11] Amount of Gandhaka jarana and Agni are also responsible for enhancing therapeutic properties of mercurial compounds.^[12] Rasasindura is one of such a Kupipakva Rasayana, with quicker action in smaller doses and having longer stability. In this study Sama guna Gandhaka and Vatankura was used for the preparation of Rasasindura.^[13]

Rasasindura is Galastha Kupipakva Rasayana predominantly having Sukshma, Vyavayi and Yogavahi properties. Prolonged Samskarana of Agni on the mercury along with sulphur during the preparation, it produces above mentioned properties. Due to its prolonged Agni samskara, Rasasindura is a very pure and essence drug increases the essence in human body when administered with proper dose and Anupana.^[14] Shukra is the essence of all Dhatu. Therefore Rasasindura has affinity towards Shukravaha Srotas and is useful in increasing the Prakrita Shleshma and Shukra Dhatu in human body. Also due to its Snigdha properties, it controls the vitiated Vata Dosha. Therefore it is very useful in increasing the Kshina Dhatu and maintaining the equilibrium in Vatadi Doshas.^[15] Rasasindura is useful to increase motility and sperm count and it has augmenting property. Rasasindura is very effective and useful Kupipakva Rasayana in the management of sexual illness of male.

Therefore in this case, Rasasindura is used with Ashvagandha and Gokshura shows significant improvement in the sperm count and motility.

Ashvagandha (*Withania somnifera*) having Madhura, Tikta, Kashaya Rasa; Ushna Veerya and Madhura Vipaka.^[16] Due to Madhura Vipaka it helps in increasing the mamsa Dhatu (muscles) and Shukra Dhatu which helps in spermatogenesis and moreover Ashvagandha has Ushna Veerya which helps in Shukra pravartana at the right time i.e. it helps in premature ejaculation. Experimental studies have shown that treatment with Ashvagandha improved prosexual behavior of sexually sluggish mice and increased testicular daily sperm production and serum testosterone level.^[17]

Gokshura (*Tribulus terrestris*) having Madhura Rasa, Sheeta Veerya and Madhura Vipaka, due to this it has vrishya property.^[18] It is emphasized to be a Vajikara Dravya.^[19] It has stimulating effect on spermatogenesis by increasing the level of Luteinizing Hormone (LH) produced by Pituitary gland, which stimulate the secretion of male hormone 'Testosterone', resulting in significant improvement in quality and quantity of sperm.^[20]

Goghrita having Madhura Rasa, Soumya and Mṛudu Guna, Sheeta Veerya, Madhura Vipaka and Pitashamaka.^[21] It is best Sneha dravya among Maha Sneha.^[22] A person who wants sex and vigor should include ghee in his daily diet.^[23]

Apana Vata is responsible for the proper expulsion of Shukra.^[24] Any pathology which affects the Apana Vata may leads to its aberrant function. Medicine given at Apana kala (before lunch and dinner) directly acts on Apana Vata.^[25] So medicines were given in this study before lunch and dinner.

During and after the treatment, no adverse action is reported.

Use of traditional or complimentary/alternative medicine (CAM) for health care has been increasingly described in medical and science reports,^[26]

CONCLUSION

Changing life style has very bad impact on human life including sexual health. Male impotency, premature ejaculation, erectile dysfunction becomes the burning issues of today's era. Ayurvedic formulations have potential to overcome the health issues. Rasasindura is useful to treat the Kshina Shukra. Rasasindura along with Ashvagandha and Gokshura with Goghrita have given better result in Kshina Shukra. After treatment there is significant improvement was observed in sperm count as well as motility. That is qualitative as well as quantitative improvement in the sperm.

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