



EFFECT OF AN AYURVEDIC MULTIMODAL INTERVENTION ON SPERM MOTILITY, SERUM TESTOSTERONE AND PROSTATE-SPECIFIC ANTIGEN W.R.T KAPHAVATAJA SHUKRA DUSHTI: A CASE SERIES

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ABSTRACT **Background:** Male infertility is a significant global health concern, with impaired sperm motility (asthenozoospermia¹) being one of the major contributing factors. 18.7 percent of men have sperm motility problem². Prostate Specific Antigen (PSA)³, a protein secreted by the prostate gland, plays an essential role in semen liquefaction and normal sperm motility. Alterations in PSA levels have been associated with increased semen viscosity, reduced testosterone levels⁴, and impaired sperm motility, thereby affecting male fertility potential. Recent advances in proteomic research have identified numerous semen proteins involved in reproductive function, highlighting the need to explore their role in sperm motility disorders. **Methodology-** 5 Subjects administered Ayurvedic intervention with Deepana pachana with trikatu choorna, virechana with avipattikarachoorna, ashwatha palaadi yapana basti and dadimadi ghrita Uttara basti and ashwathapalaadi yoga vati. **Result- Conclusion:** The findings suggest that Kaphavataja Shukra Dushti is closely linked with altered seminal fluid dynamics. This study suggests that PSA and testosterone can be used as a useful marker to assess sperm motility and semen viscosity. The therapeutic protocol employed demonstrated superior efficacy in improving semen quality, hormonal status, and sperm motility. Therefore, interventions targeting both Kapha and Vata dysfunction appear more effective in restoring normal PSA and motility function and enhancing fertility potential.

KEYWORDS : PSA, Testosterone, and Kaphavataja Shukradushti

INTRODUCTION

Male infertility is a significant global health concern, contributing to nearly half of all infertility cases among couples. Among the various causes of male infertility, impaired sperm motility (Asthenozoospermia)¹ is one of the most common abnormalities, affecting approximately 18.7% of infertile men². Sperm motility is essential for successful fertilization, and its impairment can considerably reduce male reproductive potential.

Seminal plasma contains numerous proteins that play vital roles in maintaining sperm function and fertility. More than 1,053 semen proteins³ have been identified through proteomic research, among which Prostate Specific Antigen (PSA)⁴ is one of the most important. PSA is a proteolytic enzyme secreted by the prostate gland that facilitates liquefaction and of the seminal coagulum after ejaculation, thereby promoting sperm motility and fertilizing capacity. Alterations in PSA levels have been associated with increased seminal viscosity, reduced sperm motility, hormonal imbalance, and male infertility. Furthermore, low testosterone levels have been linked with poor semen quality and impaired sperm motility. Despite the availability of PSA testing and increasing interest in seminal plasma proteins, their precise role in sperm motility disorders remains inadequately explored, highlighting the need for further research.

In Ayurveda, impaired sperm motility can be correlated with Kaphavataja Shukra Dushti⁵, where in Kapha induced Avarana to Vata leads to abnormalities in the quality and movement of Shukra. Management of such conditions involves both Shodhana and Vajikarana therapies aimed at restoring Dosha equilibrium, improving Shukra quality, and enhancing fertility potential.

Virechana, a principal Shodhana therapy, possesses Tridoshashamaka, Vatanulomana, Pittarechaka, and Kaphashamaka properties. Dadimadi Ghrita⁶, employed for Snehapana prior to Virechana, contains Dadima, Dhanyaka, Chitraka, Shunthi, and Pippali, which exhibit Deepana, Pachana, Vatanulomana, and Vrishya actions. These properties may facilitate correction of seminal plasma abnormalities, improve semen quality, and support hormonal balance.

Yapana Basti⁷ is described as Shukra-Mamsa Balaprada and Sarvaroga Prashamana. Ashwatha paladi⁸ based formulations used in Yapana Basti possess Vrishya and Rasayana properties and are traditionally indicated for reproductive health. Uttarabasti⁹, administered through the genitourinary route, is specifically indicated in Shukra Dushti and is believed to enhance the quality and quantity of Shukra by improving local nourishment, circulation, and functional integrity of the reproductive system.

MATERIALS AND METHODOLOGY

The present study adopts a well-structured methodology that encompasses the research design, techniques of sample selection, procedures for data collection, preparation of medicines, and approaches to data analysis. This systematic framework has been employed to generate reliable insights, particularly in relation to knowledge, attitudes, and experiences, ensuring that the objectives of the research are addressed with clarity and precision.

Case Report 1 – subject 1 of age 37 came to kayachikitsa OPD of TGAMC Ballari with Chief Complaint of infertility since 7 years associated with loss of libido, weakness after sexual act, had history of masturbation for 9 years on investigation of seminal parameters showed reduced motility – 20 million/ml and PSA- 2.41ng/dl and testosterone levels -2.86

Case Report 2 – subject 2 of age 33 came to kayachikitsa OPD of TGAMC Ballari with Chief Complaints of infertility since 6 years associated with loss of libido, dryness of mouth and weakness after sexual act low back ache, had history of masturbation for 3 years on investigation of seminal parameters showed reduced motility – 2 million/ml and PSA- 2.21ng/dl and testosterone levels -3.28

Case Report 3 – subject 3 of age 38 came to kayachikitsa OPD of TGAMC Ballari with Chief Complaints of infertility for 8 years associated with loss of libido, reduced appetite, fatigue and lack of mood during work had history of masturbation for 5 years on investigation of seminal parameters showed reduced motility – 20 million/ml and PSA- 2.03ng/dl and testosterone levels -1.69

Case Report 4 – subject 4 of 33 came to kayachikitsa OPD of TGAMC Ballari with Chief Complaints of infertility for 2 years associated with reduced appetite, constipation, lowback ache and anxiety had history of masturbation for 3 years on investigation of seminal parameters showed reduced motility – 30 million/ml and PSA- 2.13ng/dl and testosterone levels-280

Case Report 5 – subject 5 of age 40 came to kayachikitsa OPD of TGAMC Ballari with Chief Complaints of infertility for 4 years associated with performance anxiety, lack of arousal, reduced appetite and was k/c/o DMT2 had history of masturbation for 3 years on investigation of seminal parameters showed reduced motility – 26 million/ml and PSA- 1.72ng/dl and testosterone levels -1.72.

Table No. 1 Name of the Drugs and Purpose.

Name of the drug	Purpose
Trikatu choorna ¹⁰	Deepana, pachana,

Dadimadi ghrita06	Snehapana, Uttarabasti
Murchita tila taila11	Abhyanga
Avipattikara choorna12	Virechana
Ashwatha paladi yoga vati8	Vrishya Rasayana yoga

Table No. 2 Showing Intervention Medicine and Duration

TREATMENT	MEDICINE	DURATION
Deepana pachana	Trikatu Churna10 6gms BD before food with usnajala anupana 20ml	1st day to 5th day
Snehapana	Dadimadhi ghrita7 40 ml testdose 1st day 75ml for next 4 days	6th day to 10th day
Abhyanga & Swedana	Sarvanga Abhyanga 30mins with Murchita Tilataila followed by Baspa sweda 10min	11th day to 13th day
Virechana karma	Avipattikara churna15,20gms With ushna jala (50 ml) in the morning in an empty stomach	14th day
Niruha basti As poorva karma for uttaravasti	Ashwatha phaladi ksheerapaka siddha Yapana basti8 after bladder and bowel evacuation in an empty stomach in the morning Madhu 50ml, Saidhavalana12grms, Dadimadhighrita 50ml, Pippalikalka 24 grms, Ashwatha ksheerapaka 300ml	15th day, 16th day and 17th Day
Uttara basti	Dadimadhi ghrita7 45ml on the day of administration of Ashwatha ksheerapaka siddha yapana basti8 after basti pratyagamana, after food in the afternoon	15th day, 16th day and 17th day
Rasayana	Ashwatha phaladi yoga vati10 500mg 1capsule BD, before food	18th day to 42th day

Table No. 3 Showing before and after intervention of motility , Sr PSA. Sr Testosterone.

	Subject 1 12/05/ 2025		Subject 2 22/07/ 2025		Subject 3 16/06/ 2025		Subject 4 29/05/ 2025		Subject 5 11/07/ 2025	
	3/07/ 2025	14/10/ 2025	11/08/ 2025	12/08/ 2025	9/10/2 025					
Observations	BT	AT	BT	AT	BT	AT	BT	AT	BT	AT
Semen analysis (motility)	20	34	2	10	20	33	30	37	26	50
Sr PSA	2.41	1.81	2.21	1.78	2.03	1.52	2.13	1.51	1.72	0.76
Sr Testosterone	2.86	8.26	3.28	8.92	1.69	4.40	2.80	4.51	5.82	6.83

DISCUSSION

Discussion on Snehapana

In the management of Kaphavataja Shukra Dushti, Snehapana plays a pivotal role due to its Srotoshodana, Vatakapahara, Brimhana, and Vrishya properties. As a Purva Karma for Shodhana, Samyak Snehana facilitates Dosha Vilayana, enabling the mobilization of Doshas adhered to deeper Dhatus (leena doshas) towards the Kosta. Owing to its Snigdha, Sukshma, Sara, and Vyavayi Gunas, Sneha permeates subtle channels, loosens adhered Doshas, promotes Vishyandana, and facilitates Srotomukha Vishodhana. improving Shukravaha Srotas function, and enhancing sperm motility and fertility potential.

Discussion on Sarvanga Abhyanga and Baspa Sweda

abhyanga imparts snigdatva, while swedana facilitates deeper penetration of medicated oils, enhances circulation, and removes srotorodha, abhyanga improves peripheral blood flow, lowers cortisol levels, activates parasympathetic activity, and supports secretions of testosterone levels, thereby contributing to reproductive health. swedana induces vasodilation, promotes peripheral circulation, and thereby alleviating srotorodha.

Discussion on Virechana

Important role of virechana is beejam bhavati karmukata as per classical text of Kashayapa samhita. It does vatanulomana, agnidhepana, mana satva shuddi and indriyaprasadana. Virechana karma is the act of expelling doshas through adhobhaga (vyana vata staana). Virechana is effective not only for pitta dosha but also for pitta

associated kapha and pitta sthanagata kapha. Since kaphavata shukra dhusti is a dwidoshaja vyadhi, virechana plays an important role in its management by eliminating vitiated doshas and correcting the underlying pathology. virechana indirectly restores the natural mobility of vata (apana vata gati), which is essential for sperm motility.

It also stimulates agni, ensuring proper digestion and metabolism of proteins, which in turn nourishes rasa dhatu and supports the healthy formation of shukra dhatu. Virechana promotes detoxification, reduces oxidative stress, improves microcirculation, and supports hormonal balance, particularly testosterone regulation. Thus, its action is both eliminative and rejuvenative, preparing the body for subsequent rasayana therapies and contributing to improved reproductive health outcomes.

Discussion on Basti

Basti karma is considered as prime management for shukra dosha and shukra dushti, as Basti is considered as Shukra Balaprada, as it promotes the strength and quality of Shukra. The administered Basti Dravyas, introduced through the anal canal, goes to the Nabhi, Kati, Parshva, and Kukshi paridesha and perform their therapeutic action by their Virya. By circulating throughout the body, they alleviate vitiated Vata Dosha and associated Kapha Dosha. Since Shukra Dhatu is described as Sarva Sharira Vyapi, the therapeutic action of Basti enables it to act directly on Shukra, facilitating Shukra Shodhana and restoring its normal physiological functions. According to classical text of Ashtanga Hridaya, 2–3 Niruha Bastis to be administered before Uttarabasti so to eliminate vikruta Doshas from the Pakwashaya, normalize Apana Vata, and increase the absorption and efficacy of Sneha Dravyas administered. Having its Basti Vishodhana, Shukrala, Tridosha Shamaka, and Vrishya properties, Niruha Basti does the improvement of semen quality and reproductive function.

Discussion on Uttara Basti

Uttarabasti is a specialized procedure in which medicine is administered through the urethral route. in males it aids to deliver the medicine directly to urinary and genital tracts, according to classical texts, uttarabasti performs shodana, shamana and bhrimhana actions. Classical texts explain uttarabasti in the management of shukra dushti. it helps to correct abnormalities in the shukravaha srotas, which is responsible for the formation of shukra dhatu. In kaphavataja shukra dushti, uttarabasti plays an important role as it acts directly on the mutravaha srotas and shukravaha srotas and also helps in balancing the vitiated doshas. administration of medicated ghrita through the urethra provides a local therapeutic effect that may not be effective by oral medicines alone. The used in the procedure contains the ingredients with usna virya , katu vipaka, which helps to reduce the accumulated kapha and improves the flow of nutrients to the shukravaha srotas . it also helps in normalize apana vata , which is responsible for ejaculation, semen transport, and proper reproductive functions. Thus , uttarabasti contributes in improving the quality and function of shukra dhatu.

Discussion on Drugs

Avipattikara Choorna.-

The bioactive compounds of namely Trivrit (resin glycosides), Pippali (piperine), Sunthi (gingerols), Chitraka, and Triphala (tannins, vitamin C), worked synergistically to cleanse the body, regulate metabolism, reduce oxidative stress, and nourish Shukra Dhatu. At the cellular level, these actions targeted sperm mitochondria, enhancing ATP production and activating metabolic proteins essential for motility, while simultaneously supporting cytoskeletal proteins responsible for flagellar propulsion. Furthermore, the anti-inflammatory and antioxidant properties of these ingredients may have contributed to reducing seminogelin, thereby normalizing prostate-specific antigen (PSA) levels and improving the quality of prostatic secretions, which are essential for optimal sperm motility.

Ashwathapaladi Yoga Vati–

through the flavonoids, polyphenols, tannins, and β sitosterol present in Ashwatha Phala and Moola Twak, synergistically reduced Avarana in Shukravaha Srotas, alleviated semenogelin factor and oxidative stress, exerted Kaphavata Shamaka effects, and supported prostate health by mitigating changes associated with elevated PSA levels, resulting in a marked improvement in sperm motility and vitality.

Dadimadi Ghritia

The snigdha, sukshma, and vyavayi properties of dadimadi ghrita enable deeper penetration into the reproductive channels and facilitate

effective delivery of the medicaments to the target tissues. uttara basti with it does stanika shodhana by removing kapha avarana within shukravaha srotas. The Deepana pachana and kaphahara ingredients of dadimadi ghrita decrease excessive picchilata and corrects the guru manda guna associated with kapha. Simultaneously, Sneha and Ushna guna does vatanulomana, thereby it does the normal function of apana vata and facilitates unobstructed shukra gati. The removal of shrotorodha aids in preventing the formation of granthi of shukra dhatu.

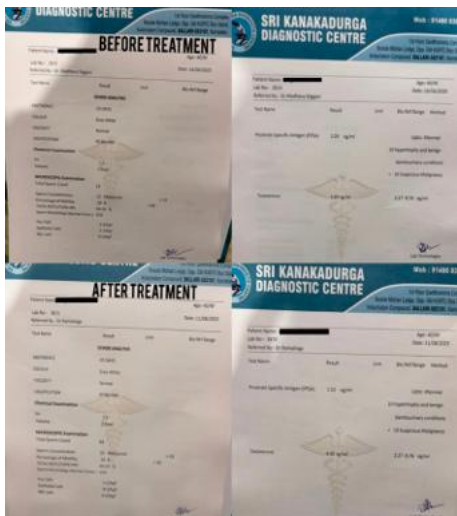
Reports of Subjects, Before Intervention and After Intervention REPORTS 1



REPORTS 2



REPORT 3



REPORT 4



REPORTS 5



BEFORE TREATMENT



AFTER TREATMENT



CONCLUSION

The Ayurvedic multimodal intervention showed improvement in sperm motility, serum testosterone, and PSA levels in the studied cases. The findings suggest that correcting Kaphavataja Shukra Dushti through Shodhana, Basti, Uttara Basti, and Rasayana therapy may improve semen quality and reproductive function. Larger controlled

studies are required to confirm these findings.

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