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A Single Case Study on Successful Ayurvedic Management of a male secondary infertility (*Rasa Pradoshaj Klaibya*)

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ABSTRACT: Single case study illustrated with *Ayurveda* therapeutic intervention of Male secondary infertility. 38 years old male patient was suffering with unable to have a child since 14-16 months associated with Lumbar pain (*Kati Shool*), Irregular & hard stools (*Mala Vibandh*) & General debility (*Daurbalya*) since 6 months. Case was diagnosed as *Rasa Pradoshaj Klaibya* resulting from injudicious use of food items, based on etiological sign and symptoms. Treatment is given accordingly, with *Langhan*, *Pachan*, *Anuloman* drugs orally in first stage and *Balya*, *Bruhan* & *Vrishya* drugs in second stage. Medicines used were *Vaishwanar*, *Erand Bhrisht Haritaki*, *Shilapravang*, all in tablet form & *Dashmool Kwath* in 2 different combinations. No any external management done for *Kati Shool*. After the treatment of 45 days, patient not only got relief in all of his complaints and also UPT of his wife came positive. His semen analysis report showed changes as Total motile sperm increased from 3% to 52%, Progressive motile sperm (million/ml) increased from 0.1 M/ml to 24.96 M/ml and Sperm vitality live sperm goes 71%, which earlier was 35% only.

Key Words: Secondary Male infertility, *Rasa Pradoshaj Klaibya*, *Shukra Kshay*, *Vrishya*, *Vata* pacification *Chikitsa*

INTRODUCTION: The *Ayurveda* tripod of life *Vata*, *Pitta* and *Kapha* though present throughout the body, their presence is more striking at specific organ. Any imbalance in these *Doshas* will lead to its vitiation and if the weak site of the body gets affected by vitiated *Dosha* then it results in manifestation of diseases. The seven *Dhatu* concepts from *Ayurveda* are also important. Amongst the linier order of *Dhatu*, *Shukra Dhatu* is seventh one. *Shukra Dhatu* is important for cell regeneration & *Garbh Utpadan* (conceiving child).ⁱ *Kapha* or *Shleshma* is interrelated with *Shukra* as *Ashrya-Ashrayi Bhava*.ⁱⁱ The *Dhatu Kshayaavstha* leads to progressive decreasing in *Kapha* & increase in *Vata Dosha*. Secondary infertility, about one-third of cases originate in women and about one-third originate in men. In the remaining one-third, the cause is due to a combination of factors or isn't known.ⁱⁱⁱ Secondary male infertility according to *Ayurveda* comes under the two headings. First is *Rasa Pradoshaj Klaibya* and other is *Shukra Pradoshaj Klaibya*.^{iv} Causes, clinical symptoms, prognosis and treatment vary in both of the conditions. In *Rasa Pradoshaj Klaibya*, firstly we have to give *Langhan* (*Deepan*, *Pachan* & *Anuloman*) and then *Vrishya*/ *Vajikaran*/ *Shukra Vardhak* treatment.

CASE DETAILS:

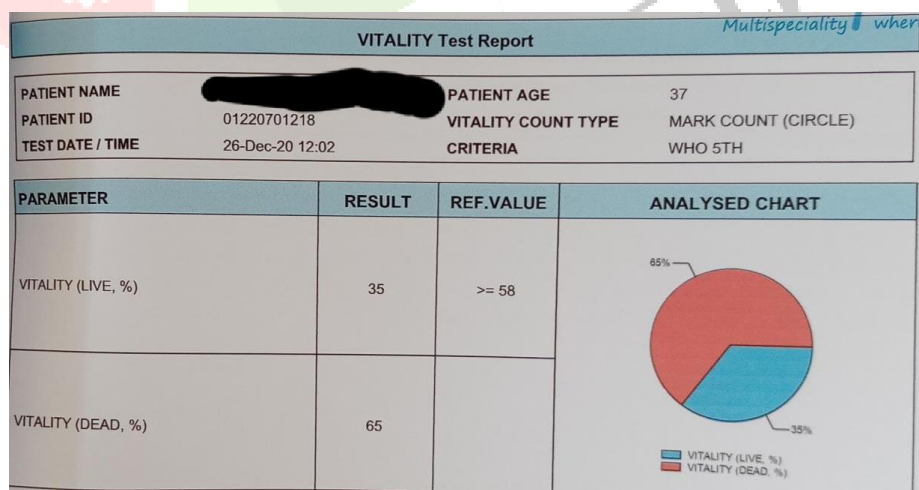
A 38 year male patient came up with complaints was as follows- Chief compliant was unable to conceive a child since 14 to 16 months. Associated symptoms were Lumbar pain (*Kati Shool*), Irregular & hard stools (*Mala Vibandh*) & General debility (*Daurbalya*). Patient was with no other disease conditions like cardiac, renal, hypertension, etc. Patient was M. Pharm by education & was doing a job in Pharmacy Company. The patient is non-alcoholic and none diabetic. In order to understand the case more deeply, the patient was asked more questions.

After taking detailed history, it was revealed that patient has taken one of the so called renowned company’s herbal shakes for weight loss and hypercholesterolemia, for almost 3 months. At the time when patient started herbal shakes, his weight was 90 kg & his height was 170 cm. So his BMI comes 31.14 i.e. he was Overweight. Patient didn’t have cholesterol report while he visited Ayurved consultant. As patient reported, after 3 months he reduced cholesterol levels and weight (After 3 months, weight was 79.8 kg, so BMI came down to 27.61) but patient started to feel weak, lumbar pain started, stools became irregular and hard. In spite of trying for second child, couple didn’t succeed so they done all reports. His wife had done USG abdomen with pelvis, ovulation study, hysterosalpingography, thyroid function test. All reports were normal.

Patient has done semen analysis. Report was showing following things

Table no.1

Parameters	Before treatment (on 26/12/20)
Total motile sperm %	3%
Total immotile sperm %	97%
Progressive motile sperm (million/ml)	0.1 M/ml
Sperm vitality live sperm %	35 %
Sperm vitality dead sperm %	65 %



Semen Analysis Report

Multispeciality *where H*

PATIENT NAME	labcore	PATIENT AGE	37
TEST RUN BY	01220701218	SAMPLE ID	01220701218
PATIENT ID	01220701218	REF BY DOCTOR	

SAMPLE INFORMATION

TEST TYPE:	FRESH	COLLECTED DATE / TIME:	26-Dec-20 10:37
LIQUEFACTION:	NORMAL	RECEIVED DATE / TIME:	26-Dec-20 10:42
VISCOSITY:	NORMAL	TEST DATE / TIME:	26-Dec-20 12:02
SAMPLE TESTED:	NORMAL VOLUME	ABSTINENCE:	3
CRITERIA:	WHO 5TH	APPEARANCE:	NORMAL

PARAMETER	RESULT	REF.VALUE	↑↓
CONCENTRATION (M/ml)	64.6	>= 15	
TOTAL MOTILE PR + NP (%)	3	>= 40	↓
PROGRESSIVE PR (%)	0	>= 32	↓
NON-PROGRESSIVE NP (%)	3		
IMMOTILE IM (%)	97		
NORMAL FORMS (AUTO,%)	2	>= 4	↓
MOTILE SPERM CONC. (M/ml)	2.0	>= 6	↓
PROG. MOTILE SPERM CONC. (M/ml)	0.1	>= 5	↓
FUNCTIONAL SPERM CONC. (M/ml)	0.0	>= 0.2	↓
VELOCITY (mic/sec)	< 1		
SPERM MOTILITY INDEX	2	>= 80	↓
TOTAL EJACULATION		RESULT	REF.VALUE
SPERM # (M/ejac)	148.5	>= 39	
MOTILE SPERM (M/ejac)	4.7	>= 16	↓
PROG. MOTILE SPERM (M/ejac)	0.2	>= 12	↓
FUNCTIONAL SPERM (M/ejac)	0.0	>= 0.6	↓
MORPH. NORMAL SPERM (M/ejac)	3.0	>= 2	
ADDITIONAL INFORMATION		RESULT	REF.VALUE
VOLUME (ml)	2.30	>= 1.5	
WBC CONC. (M/ml)	< 1	< 1	
pH	8.5	>= 7.2	
DEBRIS / ROUND CELLS	NONE/FEW		

Analysing Chart

Motility

Sperm Motility Index

labcore

No any family history of Hypertension, Diabetes, Asthma, Tuberculosis, Cardiac diseases etc seen.

Patient was taking his lunch around 1-2 pm and dinner late around 9.30 to 10 pm. He has *Mala Pravrutti* once in a day, but most of the time, have to give pressure while defecation, *Jivha- Saam*, *Kshuda-Visham*. Based on above condition we conclude that injudicious use of weight loss shakes done reduction not only in med *Dhatu* but also in *Shukra Dhatu*. It ultimately leads to *Kapha Kshay*, *Rasa Dushti*, *Shukra Dushti* and *Vata* vitiation also.

While diagnosing the disease we have to focus on *Rog Marga*, *Doshaavastha*, *Dhatu Kshay Vruddhi*, *Strotas*, *Dhatupradosha* etc. *Acharaya Charaka* mentions *Klaibya* as diseases of *Rasa Pradoshaj* & *Shukra Pradoshaj Vyadhi*.^v *Vata* can be vitiated by two ways. First is *Dhatu Kshay Janya Vata Prakop* (*Vata* vitiation due to tissue depletion) and other is *Marg Avarodh Janya Vata Prakop* (*Avarana Janya*) (*Vata* vitiation due to blockages in pathways)^{vi} Here first type of *Vata* vitiation seen. *Khudha* (Appetite) & *Mala Pravrutti* (Bowl habit) suggests that patient condition was *Saam*.

As patient was overweight previously & was having hyperlipidemia, status of his *Rasa Dhatu* was not so good. (*Kha Vaigunya*) As *Acharya Sushrut* clearly opines that *Sthaulya* & *Karshya* are *Rasa Dhatu* born diseases.^{vii}

The case is than diagnosed as secondary infertility due to low semen motility. Patient was told to do IVF procedure by gynaecologist. The couple wants baby by natural way so they visited Ayurved consultant, with above chief complaints.

In Ayurved view, after considering the symptoms and the conditions of the patient it may be concluded that injudicious use of weight loss shakes (dietary part) resulted in *Dushti* of *Rasa Dhatu*. It further leads in reduction not only in *Med Dhatu* but also in *Shukra Dhatu* by *Kedari Kulya Nyay*. Hence it is a *Rasa Pradoshaj Klaibya*.

Disease review- Male secondary infertility

Secondary infertility is similar to other types of infertility and shares many of the same signs. However, in secondary infertility one is unable to conceive or carry a baby to full-term after having a previous successful pregnancy. Infertility can be caused by either the man or woman.

Definition:- Secondary infertility is the inability to conceive a child or carry a pregnancy to full term after previously giving birth. To classify as secondary infertility, the previous birth must have occurred without help from fertility medications or treatments, like in vitro fertilization. Secondary infertility typically is diagnosed after trying unsuccessfully to conceive for six months to a year.^{viii}

Prevalence:- Secondary infertility is just as common as primary infertility. Secondary infertility can be traced to either partner or both partners. About one-third of cases originate in women and about one-third originate in men. In the remaining one-third, the cause is due to a combination of factors or isn't known.

Causes of secondary infertility in men :ix

- 1) Reduced testosterone level - Testosterone plays a key role in sperm production. Testosterone levels can decline due to aging, injury to urinary or genital organs, or certain medical conditions like Genital infections, Thyroid diseases, Diabetes, Tuberculosis, Mumps, Smallpox, Blood diseases, Benign tumors, Emotional stress, Myocardial infarction, Coma, Stroke, Respiratory failure, Congestive heart failure, Burns, Sepsis, which is a potentially life-threatening reaction to infection.
- 2) Testicular varicocele -This is an enlargement of veins in the scrotum, or the sack of skin encasing the testicles. This condition is a common cause of low sperm production and infertility in men. About 30% of infertile men have testicular varicocele.
- 3) Poor-quality semen- Semen is the fluid that carries sperm. After age 40, the quality of semen tends to decline.
- 4) Prostate enlargement- This can lower sperm count and hinder a normal ejaculation (the discharge of semen from the body).
- 5) Prostate removal- The prostate may be removed due to cancer or other conditions. Removal of the prostate can cause semen to flow backward.
- 6) Certain drugs affect sperm count and quality- These drugs include some antibiotics and medication that treat high blood pressure. Sperm quality can also be affected by treatments for the conditions like Prostate cancer, Enlarged prostate, Fungal infections, Stomach acid, Urinary tract infections, Ulcerative colitis, Arthritis, Gout, Pain, Cancers, Seizures, Schizophrenia.
- 7) Use of certain commercial sexual lubricants that are toxic to sperm- Nontoxic, natural lubricants include peanut, safflower and vegetable oils, raw egg white and petroleum jelly.
- 8) Exposure to certain chemicals- Being exposed to pesticides, lead, industrial chemicals and excessive heat can all impact a man's fertility.
- 9) Excessive weight gain- This can decrease testosterone levels and increase oestrogen levels.
- 10) Addiction:- alcohol abuse, overuse of nicotine products impaires the sperm production

Treatment options for men infertility include:^x

- i. **Intrauterine insemination (IUI)** is a procedure in which sperm is inserted directly into a woman's uterus, often used when men have low sperm count or poor sperm quality (this is also an option for women with unreceptive cervical mucus).
- ii. **Testicular surgery** can repair testicular varicocele, a condition that can affect sperm quality and count.
- iii. **Supplements** like antioxidant and anti-aging supplements can increase fertility in men while drug treatment can improve semen quality.
- iv. Lifestyle-related infertility, such as infertility caused by excess weight gain, can be reversed using weight management strategies.

Rasa Pradoshaj Klaibya:-

अश्रद्धा चारुचिश्वास्यवैरस्यमरसज्ञता ।
हृत्सासो गौरवं तन्द्रा साङ्गमर्दो ज्वरस्तमः ॥९॥
पाण्डुत्वं स्रोतसां रोधः क्लैब्यं सादः कृशाङ्गता ।
नाशोऽग्नेरयथाकालं वलयः पलितानि च ॥१०॥
रसप्रदोषजा रोगा,

^{xi} *Charaka Su. 28/ 9-10*

In the process of digestion of food *Ahar Rasa* and the waste product is produced. *Acharya Charaka* has mentioned that these materials like *Mala, Mutra, Sweda, Vata, Pitta* and *Kapha* are form as waste products. But they are not considered as waste product these all are help to maintain the equilibrium of *Dhatu's*. The *Ahar Rasa* nourishes *Rasa, Rakta, Mamsa, Meda, Asthi, Majja, Shukra* and *Oja*, basic materials of five sense organs knows as "*Dhatu Prasad*".^{xii} *Acharya Charaka* mentioned about the *Karma* of these three *Dosha's* as like *Vata* resides in *Pakvashaya* but it will work on all five types of *Vata*. So, the vitiated *Vata Dosha* from *Pakvashaya* will Vitiate *Vata Dosha* all over the body. As per the *Dhatu Parinaman Poshan Nyaya* the *Ahar Rasa* if get vitiated it will give rise to vitiated *Dhatu*.^{xiii}

In this patient, *Rasa* was vitiated with *Vata Dosha*. So, According to *Kedari Kulya Nyaya* such vitiated *Rasa* when travelled through the *Srotasas*, it doesn't nourish *Dhatu* properly and hence *Shukra Dhatu Kshay* occurred not only quantitatively but also qualitatively.

The diseases condition can be understood with all 5 types of *Vata* vitiation. As *Saman & Apan* were disturbed, patient was suffering from constipation, lumbar back pain.^{xiv} *Udan Vata* is responsible for *Bala* of patient, when it gets vitiated, patient feels *Daurbalya*.^{xv} *Vata* as a whole is responsible for *Gati* (Motion/Movement) of anything within the body.^{xvi} As *Vata* was vitiated so as sperm motility was also hampered. *Vata* vitiated *Rasa* depletes all *Dhatu*s including *Shukra Dhatu* also, resulting in decreased sperm count.

Management protocol according to Ayurveda

Rasavah Strotasa treatment principle is *Langhan*.^{xvii} *Shukravah Strotasa Chikitsa* should be *Madhur & Tikta Rasa* medicines, *Vrishya/ Vajikaran/Shukra Vardhak* treatment.^{xviii} So The patient was treated with *Langhan (Deepan, Pachan, Anuloman)* in first stage & *Bruhan, Shukra Dhatu Vardhak & Vata Shamak* in next stage.

Internal medicines for first 15 days used were

Sr. No.	Name of Medicine	Dose of Medicine	Time of administration
1	<i>Vaishwanar Vati</i>	250 mg-3 tab	3 times- Morning afternoon & evening 1 hr before food with water
2	<i>Erand Bhrisht Haritaki tab</i>	500 mg- 2 tab	3 times- morning afternoon & evening 1 hr before food with water

After 15 days, treatment revised, for 30 days as follows

Sr. No.	Name of Medicine	Dose of Medicine	Time of administration
1	<i>Vaishwanar Vati</i>	250 mg-3 tab	3 times- morning afternoon & evening 1 hr before food with water
2	<i>Erand Bhrisht Haritaki tab</i>	500 mg- 2 tab	3 times- morning afternoon & evening 1 hr before food with water
3	<i>Shilappravang Tab</i>	2 tab	2 times- morning & evening 1 hr before food with milk
4	<i>Dashmool Kwath</i>	20 ml	2 times- morning & evening empty stomach

Here *Langhan* work as *Deepan, Pachan* in *Koshtha*, at *Amashaya* for *Kledak Kapha* and *Saman Vata*. Increased *Agni* will pacify vitiated *Vata Dosha*. After that, *Bruhan* will increase all *Dhatu* including *Shukra Dhatu*.

Vaishwanar is a combination of *Sunthi, Ajvayan, Saindhav & Erand Bhrisht Haritaki* having qualities like *Laghu, Snigdha, Teekshna* and *Ushna* in *Veerya* it acts as *Agnidipak & Vata Shamak*. It improves digestive strength, balances the *Vata Dosha*.

Erand Bhrisht Haritki can prepare from *Haritaki* and castor oil useful for *Langhan, Singdh Anuloman* etc. *Haritaki* act as *Deepan, Pachan, Rochan, Virechanopaga* and helps in *Vata Anuloman, Shoolhara*-reduces the pain. Properties of castor oil as *Snigdha, Ushna, Anuloman, Vrishya* help in reducing *Shool*, balances *Vata* & promotes *Dhatu Vardhan* process.

Shilappravang Tablet is a proprietary medicine of *Shri dhutpapeshwar* company which contains *Shuddha Shilajit* 40 mg, *Pravala Bhasma* 20 mg, *Vanga Bhasma* 20 mg, *Suvarnamakshik Bhasma* 20 mg, *Guduchi Satva* 20 mg, *Ashwagandha* 60 mg, *Shatavari* 15 mg, *Gokshur* 15 mg, *Balamoola* 15 mg, *Amalaki* 10

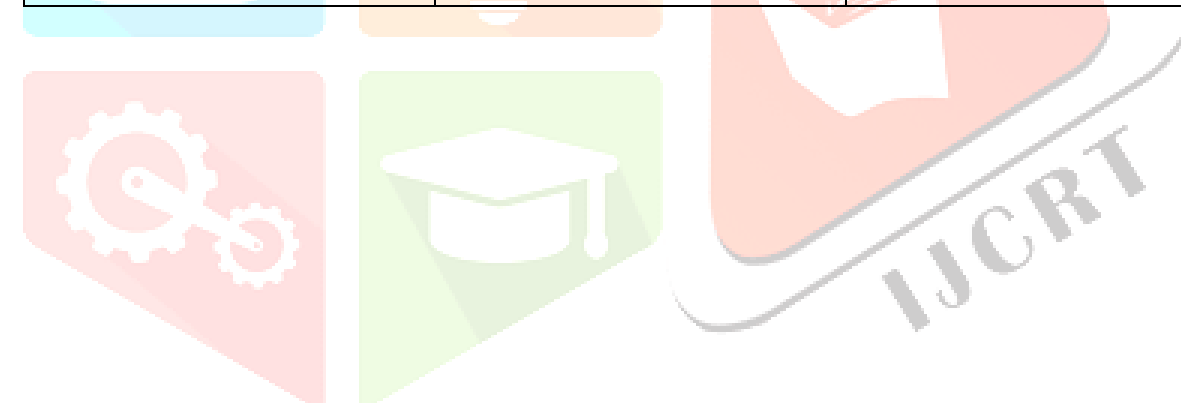
mg, Akarkarabh 10 mg, Jatiphal 10 mg, Karpoor 5 mg, Latakasturi Beej 20 mg, Kraunch Beej 90 mg, Makardhwaj 10mg, Suvarn Bhasm 1 mg, Mauktik Pishti 1 mg as active ingredients. This helps in increasing all Dhatus including Shukra.^{xix} Thus ultimately increasing vigour & vitality.

Dashamul Kwath is a combination of ten herbs namely *Bilva*, *Agnimanth*, *Shyonyak*, *Kashmari*, *Patala*, *Bruhati*, *Kantakari*, *Shalparni*, *Prishniparni*, & *Gokshur*. *Dashmul* is *Tridosh Shamak*, specifically best for *Vata*. It is having *Snigdha Dhatu Vardhak* properties helping in improving strength of the body.^{xx}

OBSERVATION & RESULTS

During the treatment of around forty five days the patient start experience gradual relief in lumbar pain & general weakness from fifth day of treatment begins and got full relief till the end of forty fifth days. On day of examination treatment started with *Vaishwanar Vati* (250 mg) 3 tab 3 times before food & *Erand Bhrisht Haritaki* tab (500 mg) 2 tab 3 times before food. The semen report with all parameters is tabulated as mention in table no. 2

Parameters	Before treatment (26/12/20)	After treatment (16/09/21)
Total motile sperm %	3%	52%
Total immotile sperm %	97%	38%
Progressive motile sperm (million/ml)	0.1 M/ml	24.96 M/ml
Sperm vitality live sperm %	35 %	71 %
Sperm vitality dead sperm %	65 %	29 %



TEST REPORT		Report Status : Final	
Name	[REDACTED]	Reg. No	: 109103217
Age/Sex	: 38 Years / Male	Reg. Date	: 16-Sep-2021 09:12 AM
Ref. By	: SELF	Collected On	: 16-Sep-2021 09:12 AM
Client Name	:	Report Date	: 16-Sep-2021 10:43 AM
Parameter	Result	Unit	Biological Ref. Interval
SEMEN EXAMINATION			
Specimen collection time	09:31 AM		
Time of Examination	10:10 AM		
Collected at	Lab		
PHYSICAL EXAMINATION			
Volume	3	ml	1.5 - 5.0
APPEARANCE	White		White
Liquification time	26	Minutes	< 30
Viscosity	Normal		No hyperviscosity
pH	7.0		>= 7.5
SPERM COUNT			
Sperm concentration	16	million/ml	>= 15
Total sperms per ejaculate	48.00	million/eje.	>= 39
MOTILITY			
Progressively Motile	52	%	>= 32
Non-progressively Motile	10	%	
Immotile	38	%	
Total-Active Motile Sperm	24.96	million/ml	
MORPHOLOGY			
Normal	08	%	
Abnormal	92	%	
Head Abnormality			
Head	61		
Elongated/ Tapered	07		
Round	04		
Amorphous	14		
Pyriiform	03		
Macro-Cephalic	12		
Double Head	10		
Micro-Cephalic	09		

This is an Electronically Authenticated Report. Sunflower Laboratory.

Page 1 of 2

Patient advised to follow some *Pathya* that includes daily used of luke-warm water, for lunch dinner and breakfast advised to consume *Mudga* soup/*Shobhanjan Sheng* soup (drumstick soup)/ *Mudga Chaval Khichadi/ Upamaa/ Daliya*. Pomegranates, Papaya in fruits category, allowed taking green/ black tea blended with *Suntha+Tulsi+Kaalimiri* and sugar as per taste. Counsel to avoid during day sleep/ *Ratri Jagran/ Pishtann Padarth/* strictly avoid eating dry fruits, excessive exertion avoided. Suggest some mild exercised like walking with normal speed.

DISCUSSION

Because *Rasa Dhatu* will travel around the whole body through *Hrudya* via *Vyan Vata*. The treatment modalities used in above said patient is mainly aim to pacify *Vata Dosha* and improves the quantity & quality of *Rasa Dhatu* so that it can start nourishment of all *Dhatu*s again.

Vata is chief component in all the symptoms of the patient. *Vata* vitiation can be of 2 types *Saam & Niram*. In the patient, *Vata* vitiation was of *Saam* type. So *Langhan (Deepan, Pachan Anuloman)* was line of treatment selected in the first stage of disease.^{xxi} *Vaishwanar* Tablet will do *Deepan* of *Agni*, helps in *Pachan* of accumulated *Aam*^{xxii} and *Erاند Bhrishta Haritaki* will do *Vata & Mala Anuloman*. *Erاند* is *Vrishya* and *Vatahar* properties.^{xxiii} Means it will helps to regenerate all *Dhatu*s including *Shukra Dhatu*. After first *Saam* stage is over then added *Dashmool Kwath* will directly pacify *Niram Vata*. As *Shilappravang* is *Balya, Bruhan & Shukra Vardhak* in nature, it will improve quantity & quality of *Shukra Dhatu*.

So with above said treatment, the vitiated *Vata Dosha* present in all over the body returns to its normal form. *Rasa* again starts nourishing all the *Dhatus* including *Shukra Dhatu*. Hence we get improvement in patient clinically as well as in semen reports. Patient became father then afterwards, and his baby, aged 1.5 yr is healthy till date.

CONCLUSION

Disturbance in *Jatharagni* can lead to disturbance in quality of *Rasa Dhatu*. Improperly made *Rasa Dhatu* ultimately leads to *Shukra Kshay*, (through *Kedari Kulya Nyay*). Male secondary infertility due to low sperm count and motility can be correlated with *Rasa Pradoshaj Klaibya*. *Langhan* (*Deepan, Pachan, Anuloman*) is the main line of treatment for *Rasa Pradoshaj Vikar*. *Langhan* treatment stimulates *Jatharagni*, pacifies *Aam Dosh* and ultimately leads to good quality of *Rasa Dhatu* . After *Langhan*; *Vrishya* & *Vajikaran* medicines directly works on *Shukra Dhatu*. Hence quantity and quality of *Shukra Dhatu* will be restored to normal.

LIMITATION

It is just a single case study. But based on *Ayurveda* conceptual study we can conclude that the *Langhan* (*Deepan, Pachan, Anuloman*) in first stage & *Vrishya, Vajikaran* & *Vata Shamak* in next stage is effective for Secondary male infertility due to low sperm count & motility (caused by improper dietary habits). To get more concisely we must have to do with large sample studies.

CONFLICT OF INTREST

None Declared

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- ^{ix} Central European Journal of Urology: "*Mechanisms linking obesity to male infertility.*" Cleveland Clinic: "Secondary Infertility." Mayo Clinic: "Secondary Infertility." Penn Medicine: "Secondary Infertility."
- ^x Central European Journal of Urology: "*Mechanisms linking obesity to male infertility.*" Cleveland Clinic: "Secondary Infertility." Mayo Clinic: "Secondary Infertility." Penn Medicine: "Secondary Infertility."
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