

Pre-conception care rendered to a male factor of Pyospermia/ Leukocytospermia leading to conception and Healthy pregnancy of the female counterpart – A case report

Case Report

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Abstract

Birth of a child is said to be no less than a miracle. The conception per say happens through the contributions by both the male and the female counter parts and is equally influenced by them. It is important to evaluate both the partners for a healthy conception. *Ayurveda* explains four important factors which are required for the manifestation of the *garbha* or for the conception to take place; they are *rutu*, *kshetra*, *ambu* and *beeja*. Alteration in any of the four factors might cause a hindrance for conception. Hence, evaluating these factors in both male and female counter parts as applicable is of utmost importance prior to conception. A male patient aged 34 years consulted us for pre conception care with a trying period of 6 months and marital life of 6 months. He was advised to undergo semen analysis which revealed presence of a large number of leukocytes in the semen sample and hence was diagnosed as pyospermic/leukocytospermic, which can be understood as *pooti puya shukra dushti* in *Ayurveda*, which can further be classified as a *pittaja shukra dushti* in a broader sense. He was treated with *shodhana* procedures of *virechana* and *nasya* to correct the *beeja dushti* followed by *vajikarana chikitsa* to enhance the health of *beeja*. Post treatment pus cells in semen reduced completely. Patient's wife was able to conceive with a healthy intrauterine foetus with an anomaly scan showing no structural abnormality of the foetus.

Keywords: Pre-conception care, Pyospermia, Leukocytospermia, *Pootipuya shukra*, *Pittaja Shukra dushti*, *Beeja*.

Introduction

Approximately 15% of all the couples trying to conceive are affected by infertility, and nearly half of these cases are attributable to the male factor alone (1). One of the factors that affect the quality of the sperm is the presence of abnormally high number of leukocytes (Pus cells) in the semen sample. Presence of more than 5 pus cells/HPF in a sample or presence of $>1 \times 10^6$ round cells/mL is considered Pyospermia (Leukocytospermia) (2). Pus cells have shown an inverse relationship with sperm motility, count and morphology (3). Hence it is one of the contributing factors for male factor infertility.(4) In *Ayurveda ashta shukra dushtis* have been explained and one among them is *pootipuya shukra* which has *lakshana* (signs) like *pooti gandha*(foul smell), *peeta varna* (yellowish in colour) which fall under the broader umbrella of *pittaja shukra dushti*(5) and hence can be correlated with pyospermia (Leukocytospermia).

Patient information:

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A male patient aged 34 years approached Srishti fertility OPD of KLE *Ayurveda* hospital for pre conception care. He also complained of early ejaculation for 6 months. The relationship between the couple was healthy, frequency of coitus was 3 to 4 per week and there wasn't any history of contraception. Patient's sexual life was unsatisfactory for 6 months because of early ejaculation. The couple had an adequate knowledge of fertility period. Female counterpart had regular menstrual cycle and had no abnormality as such.

Clinical findings

Nadi (~pulse) was 74/min; *Mutra* (~urine) frequency was 4–5 times in day. *Mala* (~excreta) was *samyaka* (~formed stool), *Shabda* (~voice) was *prakruta* (~clear), *Sparsha* (~tactile examination) was *anushnasheet* (~warm and cold touch), *Jivha* (~tongue) was *Nirama* (~clear), *Drik* (~eye and eyesight) was *Samanya* (~normal), and *Akruti* (~body stature) was *Pravara* (~high).

There was no significant abnormality detected on physical examination of the genitals.

Diagnostic assessment

- International Index of Erectile Function (IIEF 15) scale was used to assess: Erectile function, orgasmic

function, sexual desire, intercourse satisfaction, overall satisfaction.(6) (Table 2)

- Pre mature ejaculation was assessed with Premature Ejaculation Diagnostic tool (PEDT) questionnaire before and after the treatment.(7) (Table 3)
- Semen analysis was done to monitor the treatment progression and to know the outcome after the therapeutic intervention. (Table 4)

Table 1: Timeline of the study

Date	Event
7 th March 2022	Semen analysis
24 th June 2022	Semen analysis
5 th August 2022 to 7 th August 2022	<i>Deepana</i> and <i>pachana</i> (enhancing appetite and digestion) , <i>dhanyamla parisheka</i> (Pouring of medicated decoction over the body)
8 th August 2022 to 11 th August 2022	<i>Snehapana</i> (Intake of medicated ghee)
12 th August 2022 to 13 th August 2022	<i>Vishrama kala</i> (Rest period)
14 th August 2022	<i>Virechana</i> (Therapeutic purgation)
15 th August 2022 to 17 th August 2022	<i>Samsarjana karma</i> (Diet to restore digestion)
18 th August 2022 to 22 nd August 2022	<i>Nasya</i> (instillation of medicated oil into nasal cavity)
23 rd August 2022 to 2 nd October 2022	<i>Vajikarana Chikitsa</i>
8 th May 2023	Pregnancy of 6 weeks and 1 day confirmed by USG
21 st December 2023	Delivery through LSCS

Therapeutic interventions

The patient was admitted on March 22, 2022 and internal medications along with *Panchakarma* procedures (~five therapeutic procedures) were started.

Table 5: Therapeutic Interventions

Date	Intervention
5/8/22 to 7/8/22	<i>Deepana</i> and <i>pachana</i> (enhancing appetite and digestion) with <i>Agnitundi vati</i> and <i>dhanyamla parisheka</i> (Pouring of medicated decoction over the body)
8/8/22 to 11/8/22	<i>Snehapana</i> with <i>Phala Gritha</i> with a pinch <i>Abrahaka</i> and <i>Kasisa Bhasma</i>
12/8/22 to 13/8/22	<i>Vishrama kala</i> (<i>Abhyanga</i> with <i>balaashwagandha taila</i> followed by <i>bashpa sweda</i>)
14/8/22	<i>Virechna</i> with <i>Trivruth leha</i> 60gm f/b <i>draksha hima pana</i> (150ml)
18/8/22 to 22/8/22	<i>Nasya</i> (instillation of medicated oil into nasal cavity) with <i>Anutaila</i> was done in <i>Aarohana karma</i> (gradual increase of dosage) Starting with 6 drops each nostril and ending with 14 drops each nostril
23/8/22 to 2/10/22	<i>Vajikarana Chikitsa</i> 1. <i>Chandraprabha vati</i> 1 tid 2. <i>Chavanaprasha rasayana</i> 1 tsp bd 3. <i>Manasmitra vati</i> 1 bd

Follow up and outcome

Effects of therapy were assessed considering changes in International Index of Erectile Function (IIEF 15) scale, Premature Ejaculation Diagnostic Tool (PEDT) scale and semen analysis before and after treatment.

Table 2: Semen analysis

Parameter	Before treatment	Post <i>Virechana</i> and <i>Nasya</i>	After treatment (<i>Vajikarana chikitsa</i>)
Pus cells	20-30/hpf	8 to 10/hpf	Occasional
Count	40 million/ml	89 mil/ml	63.1mil/ml
Normal forms	65%	79%	91%

Table 3: International Index of Erectile Function (IIEF 15)

Parameter	Before	After
Erectile Function	18/30	29/30
Orgasmic Function	7/10	10/10
Sexual Desire	8/10	10/10
Intercourse Satisfaction	10/15	15/15
Overall Satisfaction	6/10	9/10

Table 4: Premature Ejaculation Diagnostic Tool (PEDT)

Before treatment	After treatment
10	2

* A score of 9 or 10 may be found in men with PE; it is a “borderline” score

Patient’s wife with LMP on 23/03/2023, conceived on 8th May 2023 with a single live intra uterine fetus; anomaly screening on 11th week was negative indicating healthy pregnancy.

Patient’s wife delivered a healthy female baby, through LSCS on 21/12/2023 with a birth weight of 2.965 Kg.

Discussion

Pyospermia (Leukocytospermia) is a condition in which an unusually high number of white blood cells/ Pus cells are seen in semen i.e. more than 1million/ml of semen or more than 5 / HPF, 5-10 % of the cases related to Male factor infertility are associated with pyospermia. Semen afflicted with pus cells appears greenish yellow in colour. Amongst the *ashta shukra dushtis pooti puya shukra* resembles *puya* i.e. it has *peeta varna* and is often associated with a bad smell. Hence the condition of pyospermia can nearly be correlated with *pooti puya shukra*. *Pootipuya shukra* can further be classified under a broader umbrella of *pittaja shukra vikaras*(8). In the parallel science presence of WBCs in the semen is considered indicative of inflammation rather than a sign of an underlying bacterial or viral infection. Anti-inflammatory and antibiotic treatment for the same is recommended to relieve symptoms, it is not clear whether this will also improve the probability of conception (9). A study observed significant positive correlation between leukocytospermia and oxidative stress. However,

despite of extended diagnostic efforts the cause of leukocytospermia cannot be established in most of the cases. Oxidative stress has become the focus of interest as a potential cause of male infertility and has been shown to impair sperm motility, morphology and cause DNA damage (10). *Ayurveda* emphasis on the importance of *shuddha beeja* or *anupahata retas* for the conception to take place and for the manifestation of the *garbha* (11). Hence, it is of utmost importance to evaluate the *beeja* and its quality prior to conception in cases of infertility, because a *beeja* that is afflicted with *dosha* is incapable of *prajotpadana* i.e. the person will not be able to have a progeny or the progeny might have an anomaly. Early ejaculation is considered to be one of the symptoms of *shukra gatha vata* and the treatment advised for the same is *virechana* (12). Considering the above said factors, the patient was treated with *rukshana* therapy (*parisheka*) and *deepana pachana* to achieve *nirama avasta* of the *srotas*, it was followed by *virechana* as *pooti puya* is *pittaja vikara* and *virechana* expels the excess *pitta* from the body there by reducing the oxidative stress and hence leukocytes and it also regulates the *apana vata* and thereby restoring its physiological functioning. Post *shodhana Samsarjana krama* was advised to restore the *agni* of the patient. *Nasya* is said to have a role in regulating the pulsatile secretion of GnRH (13) which is of significance when it comes to reproductive hormones i.e. FSH and LH and further Testosterone, ultimately these play a role in conception. Thus, *nasya* with *anu taila* was advised to regulate the hypothalamo-pituitary-gonadal axis. After *shodhana Vajikarana chikitsa* is indicated for the *shukra gata vikaras*(14). In *pittaja shukra dushtis Abhayamalaki Rasayanas*(15) are indicated hence *Chavanprash Rasayana* was given for the patient. It is said to be useful in removing the *shukra gata doshas*. It has ingredients like *Amalaki*, *Vibhitaki*, *haritaki* etc. In the studies that were conducted on the animals, these drugs have an effect through significantly preventing the formation of free radicals which would ultimately lead to the decrease of lipid peroxidation. The above said action of these drugs can be due to the presence of phytochemicals like flavonoids and phenolic compounds in *triphala*. The anti-inflammatory activity shown by *triphala* may be due to the presence of its active components like ellagic acid, gallic acid, 4-*O*-methylgallic acid, and bellericanin which have been proved to inhibit the activity of TNF- α and IL-1 β (16) which would further lead to the decrease in the number of leukocytes. *Chandraprabha vati* is indicated in *shukra gata doshas* and for *pumsa*, it also acts as *rasayana* (17), is used in genito-urinary diseases associated with inflammation. *Manas* plays a significant role in the manifestation of *garbha*, it is *agra* for the *dharana* of the *garbha* (18) as per *Ayurveda*, also stress levels may affect fertility rate by lowering the semen profile (19). Hence *Manasamitra vati* was advised in the above condition for an overall pre conception care as it is proven to improve quality of life by enhancing the psychological well being (20).

Patient's Perspective

General health:

Post *panchakarma* the patient felt much lighter and active throughout the day, his appetite improved and bowel habit was regular and clear, mentally he felt calm and relaxed.

Sexual health:

Post treatment the couple's intercourse phase time was increased as the ejaculation was delayed, orgasmic function or orgasm achieved compared to earlier had increased multi fold. Which ultimately led to increased sexual satisfaction.

Informed consent: Informed consent was taken from the patient for publishing the case.

Conclusion

In matters of conception both male and female counter parts play an equal role, in the present era due to stressful life and food habits fertility of the population is declining as days pass, evaluation of the male and female counter parts will help in detecting issues pertaining to fertility, this would further help in early diagnosis and intervention which could lead to a healthy pregnancy and a healthy progeny. Hence pre-conception care is of utmost importance in the present era and should be considered before planning for conception. Pyospermia/Leukocytospermia remains a confusing and unexplored area and hence lies a vast scope for research and intervention through Ayurveda.

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