



Research Article

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EVIDENCE BASED EFFECTIVE MANAGEMENT OF DUSTA PUYO RETA (BACTERIOSPERMIA) BY SHAMANAUSHADIS

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ABSTRACT

Male factor infertility has a varied cause among which bacteriospermia is the commonest asymptomatic cause accounting about 30% registered cases in India. The bacteriospermia leads to abnormal physiological and morphological changes in the sperms. It was seen that the role of antibiotics is minimal in the treatment of semen infections due to the formation of anti-sperm antibodies which destroys any possible antibiotic receptor. Dusta Puya Retas (bacteriospermia) has been explained one among the eight shukradustis (sperm defects) as per Ayurveda. Both the male patients came to OPD with the complaints of infertility since 2 years. On semen analysis; the cases were detected with increased amount of pus cells in semen. Treatment was planned with shaman aushadis (oral medications) for a period of 3 month following which semen analysis showed mass improvement. After a period of few months in both the cases the couple conceived. Complete improvement was seen after the treatment. Dusta puya retas chikitsa (infected semen treatment) was done in the initial months as per the treatment principle is given in classics. After the control of the pus cells in semen, Janak pravartaka treatment was administered for the increase of sperm count and easy ejaculation.

Keywords: Male Factor Infertility, Bacteriospermia, Antibiotics, Anti-Sperm Antibodies, Dusta Puyo Retas, Shukradusti.

INTRODUCTION

Infertility is a widespread problem especially common in today's era due to improper lifestyle, late night work schedule, and poor communication among the partners. Male infertility is either caused due to low sperm production or sperm transport. About two-third of infertile men have a problem in sperm production, 1 in 100 infertile men due to low hormone production, and 1 in 16 infertile male due to sperm antibodies¹. In most men, sperm antibodies will not affect the chance of pregnancy directly but it reduces the chances of fertility². In most of the cases, male infertility is asymptomatic among which bacteriospermia is the commonest asymptomatic cause accounting about 30% registered case in India¹. It leads to abnormal physiological and morphological changes in the sperms either it can be headless, tailless, agglutination of the head to head or tail to tail, etc.^{2,3,4}. It was seen that the role of antibiotics is minimal in the treatment of semen infections³ due to the formation of anti-sperm antibodies (ASA) which destroys any possible antibiotic receptor. The formation of ASAs occurs due to body high immunity response as the sperm may cross the blood-testis barrier⁵. The difficulty of ASAs is that it is productive until 1 year; as a result, it also acts in the barrier in much fertile male causing temporary infertility⁵. The sign and symptoms of the semen quality in bacteriospermia can be correlated with dusta puya retas (bacteriospermia) in Ayurveda^{6,7,8}. Dusta Puya Retas (bacteriospermia) has been explained one among the eight shukradustis (sperm defects) which can be assessed clinically^{7,8,9}. Semen analysis is an investigation to assess the fertility factor of a male partner, any changes in the semen parameters can be correlated clinically and treatment can be planned accordingly.

Objective Parameters Taken

1. Semen Analysis
2. Semen Culture and Sensitivity Test

MATERIALS AND METHODS

Study Design: Observational Prospective study

Subjects consent were taken before enrollment of the subjects in study and study was carried out as per International conference of Harmonization-Good Clinical Practices Guidelines (ICH-GCP).

Literary Source

- a. The College Library.
- b. Relevant Research articles.
- c. Reliable Internet Resources.

Clinical Source: Data was generated by the assessment of the subjects who fulfilled the assessment criteria and consensually enrolled in the study from the Out Patient Department of KLEU'S Shri BMK Ayurveda Hospital.

CASE -01

A 32 years old Indian male, moderately build and resident of Belagavi, Karnataka, came to OPD with the complaints of no issue since 2 years, he further reviled that he is married for 4 years and his trying period is that of 2 years. His past history and personal history was not contributory to the present condition and he had never suffered from any major illness. His vitals were found to be normal and he weighed 65 kg. He was advised to undergo the investigation of complete blood count,

semen analysis, urine routine, random blood sugar and random urine sugar. His semen analysis indicated decreased count and motility and increased abnormal forms. So, he was advised to further to do semen culture and sensitivity test, which gave the impression that *Escherichia coli* has been isolated and he is resistant to Amoxyclav and clindamycin. He was advised with Shamana aushadis (oral medications) for the same for a period of 4 months.

CASE-02

A 30 years old Indian male, moderately build and resident of Belagavi, Karnataka, came to OPD with the complaints of no issue since 3 years, he further revealed that he is married for 4 years and his trying period is that of 3 years. His past history and personal history was not contributory to the present condition and he had never suffered from any major illness. His vitals were found to be normal and he weighed 68 kg. He was advised to undergo the investigation of complete blood count, semen analysis, urine routine, random blood sugar and random urine sugar. His semen analysis indicated decreased count, motility and oligospermia. So, he was further advised to do semen culture and sensitivity test, which gave the impression that *Escherichia coli*, has been isolated. He was advised with Shamana aushadis (oral medications) for the same for a period of 4 months.

Treatment

The treatment was planned as per the classical reference of astashukra dusti chikitsa (eight sperm defects treatment). In the initial three months, the patients were given the classical medicine like Sarivadiasava, Shiva Gutika, and Nityananda Rasa. In the following next one month, the previous medications were stopped and Siddha Makaradwaja and Bhargava Prokta Rasayan was added. The detailed treatment schedule with dose and duration is given in Table 1.

Improvement

Patients were completely cured after the treatment as there was no evidence of semen infection seen and sperm count was also increased in both the cases. After a period of few months, the couple conceived as the females in both the case was not having a gynaecological abnormality. In the 1st case, the sperm count increased by 5 million/ ml and in the 2nd case 8.8 million/ml. It was also observed that in the 2nd case study that the motility of the sperm increased from 25% to 40%. It was also observed that the culture and sensitivity test after the treatment were found satisfactory with no organism growth after 48 hours of incubation. Before and after treatment semen analysis investigations of the case 01 is given in Table 2 and culture and sensitivity test is given in Table 3. While the before and after treatment of semen analysis investigations of case no. 02 is given in table no.04 and culture and sensitivity test is given in Table 5 respectively. The improvement of both the cases on the basis of sperm count can be compared and observed in Chart 1.

Table 1: Treatment planned

Initial 3 months	Sarivadiasava- 3tsf (15ml) TID Shiva Gutika (2gm) -1 BD Nityananda Rasa (250mg)-2 BD
Followed by next 1 month	Siddha Makaradwaja (125mg)- 1 BD Bhargava Prokta Rasayan- 4tsf (20ml) OD with Milk

Table 2

Semen analysis of case-1		
Parameters	Before treatment (24/03/2015)	After treatment (09/07/2015)
Abstinence	3 days	3 days
Quantity	2 ml	2 ml
Appearance	Opalescent	Opalescent
Consistency	Mucoid changes to watery within 40 minutes	Mucoid changes to watery within 40 minutes
Reaction	Alkaline	Alkaline (pH-7.8)
Count	20 million/ ml	25 million/ ml
Fructose test	Positive	Positive
Motility	Actively motile	30%
	Sluggishly motile	20%
	Non motile	50%
Morphology	Normal forms	40%
	Abnormal forms	60%
Impression	Decreased count and motility Increased abnormal forms	Decreased count and motility Increased abnormal forms

Table 3

Culture and sensitivity test of case-1		
Parameters	Before treatment (24/03/2015)	After treatment (09/07/2015)
Source of specimen	Semen	Semen
Resistant antibiotics	Amoxiclav Clindamycin	Amoxiclav Clindamycin
Culture	<i>Escherichia coli</i> isolated	No organism growth in culture after 48 hours of incubation

Table 4

Semen analysis of case-2		
Parameters	Before treatment (31/08/2016)	After treatment (07/01/2017)
Abstinence	3 days	3 days
Quantity	2.5 ml	3 ml
Appearance	Opalescent	Opalescent
Consistency	Mucoid changes to watery within 40 minutes	Mucoid changes to watery within 40 minutes
Reaction	Alkaline (pH-8)	Alkaline (pH-8)
Viscosity	Normal	Increased
Count	29.6 million/ ml	38.4 million/ ml
Fructose test	Positive	Positive
Motility	Actively motile	25%
	Sluggishly motile	10%
	Non motile	65%
Morphology	Normal forms	50%
	Abnormal forms	50%
Impression	Oligospermia	Oligospermia

Table 5

Semen culture test of case-2		
Parameters	Before treatment (31/08/2016)	After treatment (09/01/2017)
Source of specimen	Semen	Semen
Culture	<i>Escherichia coli</i> isolated	No organism growth in culture is noted after 48 hours of incubation at 37 degree

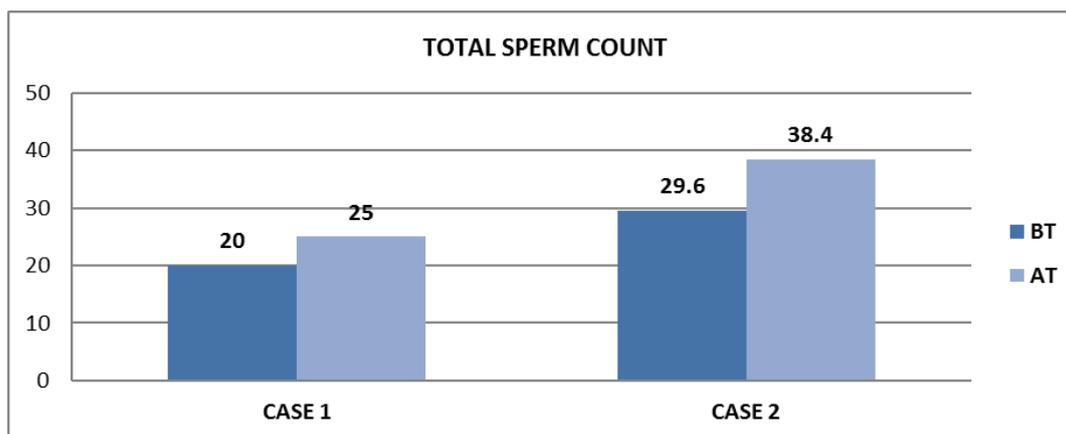


Chart 1

DISCUSSION

ASAs is one of the major asymptomatic cause for infertility, the cause of infection and inflammation, such as epididymis or chronic prostatitis increases the immune cell in the vicinity and lead to the formation of ASAs⁵. The treatment mainly followed to overcome this situation in the contemporary science is immunosuppressive therapy, corticosteroid therapy, IUIs in the female partner, and condom therapy or rapid treatment of the genital infections⁵. The beta lactam compounds group of antibiotics like penicillin has little activity against the gram-negative rods and mainly acts on the gram positive species¹⁰, in the group of cephalosporin and cephamycins, the 2nd generation is mildly active on the gram negative species¹¹ whereas the 4th generation acts mainly on the gram negative species¹². The group of tetracycline and macrolide although are the broad spectrum antibiotics but have minimal action on semen infection^{13,14}. As per the Ayurvedic view, the treatment protocol has been adapted in such a way so that in the initial stage, the treatment regarding the removal of foreign bodies; in this case bacteria has been done while in the later stage the applied aspect of drugs having the property of increasing sperm and its proper ejaculation was administered. Therefore in the Initial three

months, Dusta puya retas chikitsa¹⁵ (bacteriospermia) was done as per the treatment principle is given in classics. Where Sarivadiasava was selected as it acts as Dhatu Shodhak (tissue purifier), Rakta Shodhak (blood purifier) and Shukra Shodhak (sperm purifier)¹⁶, Shiva Gutika was selected as it contains Shilajita (*Asphaltum punjabianum*) which consist of Fulvic acid as an active ingredient, having Antibiotic, Anti-fungal, and Anti-inflammatory action, it also acts as Rasayana (rejuvenator)^{17,18}, whereas Nityananda Rasa was selected as it has Tridosha Haranam (decreases the three humours), Bhedanam (penetrating), Rasayanam (rejuvenator) properties¹⁹. After the control of the pus cells in semen, Janak pravartaka treatment was administered for the increase of sperm count and easy ejaculation like Siddha Makaradwaja (125mg) was used due to its Rasayan (rejuvenator) action²⁰ while Bhargava Prokta Rasayan acts as Vyadhihara Rasayan (immuno-regulation rejuvenator) in marga avarodha (channel obstruction)^{21,22}. The ayurvedic drugs like Siddha Makaradwaja and Bhargava Prokta Rasayan may also act as a preventive aspect in the controlling of formation of ASAs in the future as both the drugs have Rasayan (rejuvenation) effect.

CONCLUSION

Shamanaushadis (oral medicines) in Ayurveda provides a better aspect where contemporary science is limited to some extent as we can see in the above two cases.

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