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Case Study

AN AYURVEDIC APPROACH TOWARDS MANAGEMENT OF FEMALE INFERTILITY DUE TO ANOVULATION

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ABSTRACT

Infertility is becoming major issue in today's society due to declining rate of fertility and fecund ability. In Ayurveda there are four important factors of *Garbha* that are *Ritu* (fertile period, season), *Kshetra* (healthy reproductive organs), *Ambu* (proper nutrient fluid), *Beeja* (ovum or sperm). *Abeejatava* in females can be correlated with decrease in quality and quantity of ovum i.e., anovulation. The development of follicle to appropriate size to become ovum and its rupture will take part in process of conception. Vitiation of Tridosha is responsible for anovulation. In this case a 33 year old female with case of *Apraja* with *Beejadushti* was anxious to conceive since 13 years of marital life came to OPD of Prasuti Tantra and Stree Roga at Sree Dharamasthala Manjunatheshwara Hospital, Hassan.

Methodology: In this case *Uttara basti* with *Prasarini taila* for 3 days followed by oral administration of *Chitrakadi vati* was given. This protocol was followed for 3 consecutive menstrual cycles. **Outcomes:** The patient was having anovulation before the treatment. After the treatment follicle size increased upto 17mm. **Conclusion:** Ayurveda is effective in management of infertility due to anovulation.

INTRODUCTION

Infertility is defined when couples are unable to conceive after one or more year of regular unprotected coitus. Infertility is affecting approximately 8%-10% couples, probably between 15 and 20 million (25%) are in India. According to WHO, one in every four couples in developing country are affected due to infertility.[1] Now days change in diet, lifestyle, increasing age, work pressure are the common factors which effect the process of ovulation, thus leading to anovulation.

There are four factors i.e., *Ritu, Kshetra, Ambu, Beeja* which is needed for conception, among which *Beeja* can be considered as male or female gamete. [2] *Artava* has been correlated to *Beeja,* [3] here *Anartava* or *Nashtartava* can be correlated with anovulation. *Tridoshas* have an impact over all the process involved in ovulation.

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Vata by virtue of its properties is responsible for proliferation and division of cells (granulose and theca cells) especially *Apana Vayu* is responsible for ovulation. *Kapha dosha* plays an important role in follicular growth. Due to *Pitta dosha* influence, mature follicle will get *Agneytava* by *Dhatupaka*. Any problem in normal functioning of *Tridosha* will lead to *Beejadushti* or *Abeejatva*.

In this study, *Niruha basti* was given prior to *Uttara basti*, then *Uttara basti* with *Prasarini taila* [4] and *Chitrakadi vati* [5] orally were given.

AIM AND OBJECTIVE

To find out the effectiveness of *Chitrakadi vati* and *Prasarini taila uttara basti* in management of *Stree bandhyatwa* due to anovulation.

CASE DETAILS

A female subject aged 33 years from Hassan, Karnataka visited Prasuti Tantra and Stree Roga OPD, she was anxious to conceive since 13 years. She took hormonal treatment and underwent IVF one time without any benefit. The patient was advised Ayurvedic treatment. On the basis of follicular study (USG) the subject was diagnosed as having anovulation (*Anartava*).

History of Present Illness: Even after nearly 13 years of unprotected coitus, the subject was unable to conceive. Subject had first degree consanguineous marriage with marital life of 14 years.

History of past illness: The subject had undergone In Vitro Fertilisation (IVF) treatment in 2016 and Intrauterine Insemination (IUI) in 2019 without any benefit.

Family history: No related history of female infertility in mother and siblings.

Personal history

- *Ahara*- Mixed- *Katu rasa pradhana ruksha, Guru* and *Ushna guna ahara*
- *Agni- Vishmagni*
- Bowel- Regular (2 times per day)
- Micturition- 4-5 times/day
- Sleep- Sound
- *Manasikabhava- Chinta, Shoka*

Menstrual History

- Age of menarche- 12 years
- Regularity of cycle- Regular
- Duration of flow- 3-4 days
- Interval of flow- 25-28 days
- Amount - Moderate, 2-3 pads/day
- Clots - Absent
- Pain – No pain in back/ abdomen/legs
- Color- red
- Character of flow- Watery
- Foul smell- Absent

Obstetric History

- P0 L0 A2
- A1- At 5 months, MTP in 2008
- A2- At 1.5 months, missed abortion in 2013

Examination of Patient

Ashtasthana Pareeksha

Nadi- Vata kaphaja
Mutram- Prakruta
Malam- Prakruta
Jihva- Lipta
Sabda- Spashta
Sparsha- Anushnasheeta
Drk- Prakruta
Akriti- Madhyama

Dashavidha Pareeksha

Prakriti- Vatakaphaja
Vikriti- Vatakaphapradhana tridosha
Sara- Rasasara
Samhanana- Madhyama
Satva- Madhyama
Satmya- Katu rasapradhana Sarvarasa
Agni- Vishama
Vyayamashakti- Avara
Vaya- Madhyama
Pramana- Madhyama

Srotas pareeksha

Pranavaha srotas- Prakruta
Udakavaha srotas- Prakruta
Annavaha srotas- Prakruta
Rasavahaha srotas- Srotorodha
Raktavaha srotas- Prakruta
Mamsavaha srotas- Prakruta
Medovaha srotas- Prakruta
Asthivaha srotas- Prakruta
Majjavaha srotas- Prakruta
Sukravaha srotas- Prakruta
Pureeeshavaha srotas- Prakruta
Mutravaha srotas- Prakruta
Swedavaha srotas- Prakruta
Artavaha srotas- Artavanasha (anovulation)

General Examination

Built- Medium
Height- 149.8cm
Weight- 56kg
BMI- 24.9kg/m^2
Pulse- 78 BPM
Temperature- 98.6°C
Respiratory rate- 17/ min
Bp- 120/80 mmhg
Pallor- Absent
Icterus- Absent
Lymphadenopathy- Absent
Clubbing- Absent
Hirsutism- Absent
Acne- Absent
Acanthosis nigricans- Absent

Systemic Examination

CNS- Conscious, oriented to person, place and time
CVS- S1 S2 heard, no abnormal sounds heard
RS- Normal vesicular breathing sounds heard
P/A-
Inspection- No surgical scar or swelling noted
Palpation- Soft, non-tender

Gynaecological Examination

P/S examination-
Vulva- Normal
Vagina- walls- healthy, pink color
Cervix- Nulliparous, Normal
P/V examination- Uterus - AV/NS/FF

Samprapti

Nidana- Vaya, Atiruksha ahara, Anoopa desha

Rupa- Abeejatava

Samprapti ghataka

Dosha- Vatakaphapradhana tridosha dushti

Dushya- Rasa dhatu, Artava (Beeja)

Agni- Jathragni, dhatvagni

Ama- Sama

Srotas- Rasa, Artava

Srotodushti- Sanga

Udbhavasthana- Amashya, Pakvashya

Vyaktasthana- Dimba, Garbhashya

Rogamarga- Madhyama

Sadhyaasadhyata- Krichrasadhya

Investigations

Hb- 12.6 gm/dL

TSH- 2.259 µIU/ml

T_3 – 2.91 pg/ml

T_4 – 1.00 ng/dl

Serum LH- 10.43mIU/ml

Serum FSH- 6.77 mIU/ml

Timeline

The detailed timeline is given in table 1

Table 1: Observations

Date	Observations and remarks
July 6, 2022	Follicular study was done on day 16 of menstruation (LMP* on 8/6/22)
August 10, 2022	*Niruha basti* and *Uttara basti* administered, *Chitrakadi vati* orally (LMP on 3/8/22)
August 27, 2022	Next menstruation attained
September 2, 2022	*Niruha basti* and *Uttara basti* administered, *Chitrakadi vati* orally
September 24, 2022	Next menstruation attained
September 30, 2022	*Niruha basti* and *Uttara basti* administered, *Chitrakadi vati* orally
November 01, 2022	Follicular study was done on day 13 and 16 of menstruation (LMP on 17/10/22)

*LMP- Last menstrual period

Diagnostic Assessment

The detailed evaluation of objective parameters was done through history, physical examination, and investigations. The objective parameters were follicular size and endometrial thickness. The diagnosis was based on USG-follicular study as secondary infertility due to anovulation.

Therapeutic Intervention

Oral administration of *Chitrakadi vati*

Drug*: Chitrakadi vati*

Dose: 2 tablets BD (1 tablet = 400mg) before food

Anupana: Sukhoshna jala

Duration: For 15 days after cessation of menses (from 6th day to 20th day for 3 cycles)

Niruha Basti

Erandamooladi kashaya- 300ml

Kalka- Yashtimadhu churna + Bala churna + Shatapushpa churna (15 gram each)

Sneha- Prasarinyadi taila- 80ml

Makshika- 80ml

Saindhava- 5 grams

Uttar basti* with *Prasarinyadi taila

Drug: *Prasarinyadi taila*

Mode of administration: *Taila*

Dose: 5 ml

Route: Intra uterine

Duration: Each cycle for 3 days after menstruation (between 7th to 10th day of cycle for 3 cycles)

Table 2: The Protocol Followed for *Basti*

Time	1st day	2nd day	3rd day
Morning	*Niruha basti*	*Niruha basti*	*Niruha basti*
Afternoon	*Uttara basti*	*Uttara basti*	*Uttara basti*

Follow-Up and Outcome

The objective parameters were assessed before and after treatment [Table 3]. The subject with anovulation, after taking treatment there was improvement in the growth of follicle.

Table 3: The Objective Parameters were Assessed Before and After Treatment

USG Findings	Date	Right ovary	Left ovary	ET*
Before treatment	23/6/22 (Day 16)	No dominant follicles	No dominant follicles	5mm
After treatment	1/11/22 (Day 13)	No dominant follicles	10mm sized dominant follicle	5mm
	3/11/22 (Day 16)	No dominant follicles	17mm sized dominant follicle	5.4mm, trilaminar, regular

*ET- Endometrial thickness, USG- Ultrasonography

DISCUSSION

Female infertility occurs due to various causes like ovarian, tubal, uterine, cervical, vaginal factors. Ovarian factors include anovulation or oligo-ovulation. In Ayurveda, *Artava* is being correlated to *Beeja*, female hormones and menstrual blood.[6] Anovulation or oligo-ovulation can be correlated to *Nashtaartava* or *Artava kshaya* i.e., *Beeja dushti*. Due to various *Nidana sevana* like improper diet, sedentary lifestyle, increased stress, increasing age vitiates the *Tridosha*, specifically *Vata dosha*. This vitiated *Vata* causes *Kha Vaigunya* in *Artavahasrotas* and further vitiation of *Kapha* and *Pitta dosha* also occurs. Due to *Nidana sevana jathragni mandya* occurs and cause *Ama* formation. *Ama* leads to *Srotorodha*. Further *Dhatvagnimandya* occurs and vitiation of *Rasa* and *Rakta dhatu*. As *Artava* is *Updhatu* of *Rasa dhatu,* [7] due to vitiation of *Rasa dhatu artavakshaya/Beejadushti* happens.

In this case due to *Vata padhana tridosha* and *Agnimandya* which cause *Rasa dhatu dushti* which further leads to *Beeja dushti* (as *Artava* is *Upadhatu* of *Rasa dhatu*). The Ayurvedic management with *Basti* and *Chitrakadi vati* orally was adopted.

The *Basti* which is given in upper (*Uttar*) passage i.e., urinary or vaginal than usual (anal) passage; is used after *Niruha basti* and is superior in qualities thus is termed as *Uttarbasti*. In all *Panchakarma* therapy *Basti* is *Pradhana* due to its different actions and *Nanavidha dravya samyoga*. Among the three types of *Basti, Uttarbasti* has some special quality, so it is nominated as "*Uttar*" i.e., "*shrestha*".[8] *Basti* is told to be best treatment in female infertility due to *Vata dosha.* [9]

Erandamooladi kashya niruha basti helps in *Shaman* of *Vata-kapha dosha* [10] and removes *Srotorodha*. Its main content is *Eranda* which is *Apana vata anulomaka. Chitrakadi vati* contains drugs which are *Ushna* and *Teekshana* in *Guna* by virtue of which it will reach *Sukshmavaha srotas* of body and will help in *Ama pachana* which helps in normal follicular growth and increases *Pachakagni* due to which *Pitta* helps in rupture of follicle. *Prasarini taila* contains the drugs which are *Tridosha shamaka* and most are *Vatakaphahara*, thus it will help in removing *Srotosanga* and corrects *Artvagni* i.e., ovulation process.

CONCLUSION

Beeja is considered as important factor among the *Garbha sambhava samgri*. Due to *Agnimandhya* and production of *Ama* causes *Rasadhatu dushti. Vata kapha pradhana tridosha prakopa* leads to *Srotorodha* and interferes with production of *Beeja* leading to *Abeejayava* or *Beeja dushti*. To break this pathogenesis Ayurvedic management with *Basti chikitsa* and *Chitrakadi vati* was used. In this case it can be concluded that through Ayurvedic management we can manage infertility due to anovulation.

Declaration of Patient Consent

The authors certify that they have obtained a patient consent form, where the patient has given her consent for reporting the case along with the images and other clinical information in the journal. The patient understands that her name and initials will not be published and due efforts will be made to conceal her identity, but anonymity cannot be guaranteed.

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