Ayurvedic Management of Multifactorial Female Infertility: A Case Report

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ABSTRACT

Introduction: Infertility is a medical condition that can cause psychological, physical, mental, spiritual, and medical detriments to the patient. “Infertility is defined as failure to conceive within one or more years having regular unprotected coitus. All types of female Infertility in Ayurveda are described under the heading of Vandhya. According to Acharya Sushruta, there are four factors responsible for creation of Garbha i.e. Ritu (Ovulatory period/period for copulation), Kshetra (reproductive tract including Uterus, Fallopian tube, Ovary), Ambu (Nutritive fluid for fertilized ovum), Beeja (Shukra & Shonita i.e. Sperm & Ovum). Among these four factors tubal blockage can be considered as the deformity of Kshetra i.e. Kshetradushti and Low level of Anti mullerian hormone can be compared to Dhatukshayajanya Vandhyata.

Aim and Objective: This case study was done to treat multifactorial female infertility with Ayurvedic treatment protocol and provide better quality of life.

Methodology: A female Patient of 28 years of age, came to OPD of Prasuti Tantra Evum Stree roga with complaint of inability to conceive since 2 years of unprotected intercourse. Patient was diagnosed with female infertility due to bilateral tubal blockage, and low AMH level treated by Ayurvedic intervention i.e. - Virechana Karma, Yuktaratha Basti (3 days) along with Uttarabasti with Apamargkshara Taila (6 days) and Nagakesara Choorna orally (after stopping of menstrual bleeding).

Result: Female infertility cured after treatment and conception achieved.

Discussion: Ayurvedic approach would be beneficial in conservative management of tubal blockage and has an effective result in female infertility.

Keywords: Female infertility, Fallopian tubes blockage, Virechana, Uttarabasti, AMH

Introduction

Infertility is a global problem in the field of reproductive health. It though not a physically disabling disorder has far reaching psychological and social consequences. According to recent study of WHO, around 17.5% of the adult population – roughly 1 in 6 worldwide – experience infertility.[¹] In India, 3.9 to 16.8% of female suffers from primary infertility. Nearly 15% of couples worldwide are suffering from infertility in developing countries.[²] Among responsible factors of Female infertility, the tubal blockage is the 2nd highest affecting around 25-35% of population and difficult to treat. Peri-tubal adhesions, previous tubal surgery, salpingitis etc are the common causes of tubal blockage.[³] Tubal reconstructive surgeries and invitro fertilization are only alternative management but that are unable to provide satisfactory results. In the ovary AMH is secreted from the granulosa cells of pre antral and small antral
follicles. AMH has the potential to predict future reproductive lifespan and is therefore considered to be
the best endocrine marker for assessing age-related decline of ovarian pool in healthy women.[4] Ayurveda has explained Vandyatva as equivalent for infertility. It is one among Ashiti Vata Vikaras (80
types of Vatika disorders)[5]. Acharya Sushruta include Vandhya in Yoniyapada and also given in Artava-
Vaha Srotasa Vidhha Lakshanas.[6][7] According to Harita Vandhyatva is failure to get a child rather than conception. He has described six types of Vandhyatar\[8\]
1. Kakavandhya (one child sterility)
2. Anapatya (Primary infertility)
3. Garbhasravi (Recurrent abortion)
4. Mritavatsa (Stillbirth)
5. Balakshaya (loss of strength)
6. Vandhya due to Balya Avastha, Garbhakoshabhanga and Dhatukshaya

Here the clinical condition can be better correlated with Strivandhyatva (female infertility) due to Artava
Bija Vaha Srotorodha (obstruction in fallopian tube) and due to Dhatukshaya. Fallopian tubes are very
important structures of Artavavaha Srotas (reproductive tract) as they carry Beeja Roopa Artava (ovum
& sperm). Vitiation of Vata and Kapha Dosha are responsible for Srotorodha (obstruction) in fallopian
tube ultimately results infertility due to tubal blockage. Agni Deepana and Srotovishodhan supports proper
Dhatu formation and normalize the vitiated Vata-kapha Dosha which leads to restoration of tubal
function and easy conception. It can be achieved through proper Ayurvedic management.

Case Report
A female Patient of 28 years of age, came to OPD of Prasuti Tantra Evum Stree Roga, with complaint of
inability to conceive since 2 years of unprotected intercourse.
At 25 years of age she was married to a non-Consanguineous man of 27 years on 2019. They tried to
conceive since then but failed. Hence in 2021 they consulted an allopathic gynecologist. Investigations
were carried out on both partners. Her follicular study revealed oligo-ovulation and development of
follicular cysts. On HSG (Hysterosalpingography) bilateral cornual blockage was detected. Semen
analysis of male partner was normal. One IUI(Intra Uterine Insemination) was done along with medicines
for necessary hormone correction but that was found to be unsuccessful. Then they referred to a reputed
infertility centre for further treatment. Routine investigations were carried out there which revealed low
AMH level (0.508 ng/ml). Due to low AMH and bilateral cornual blockage they were advised to go for
IVF (In Vitro Fertilization). As the couple was not willing for IVF, they visited our outpatient department
on 14th June 2022 for Ayurvedic treatment.
From case history it was known that she had regular menstrual cycle with the duration of 3 days and 24-
25 days of interval. The amount was scanty since menarche. Her obstetric history was nill. Her personal
history revealed a regular bowel habit and sound sleep. She had not any surgical history. Family history
was negative for any premature ovarian failure or low AMH.

Physical Examination
Her general condition was good with pulse rate 78/mins, respiratory rate was 16/mins and blood pressure
was 118/74mmhg. No abnormality was noted after a detailed systemic examination. She is of Vata Kapha
Prakriti with Madhyama Satva (moderate mental strength) and Madhyama Koshtha (moderate bowel).
Local Examination
On examination, the vulva was found healthy with no any local lesion or growth. Per- Speculam examination showed a healthy nulliparous cervix without any significant abnormality. Bimanual examination revealed an anteverted mobile uterus with no cervical motion tenderness.

Investigations
Haematological: on dated - 15/12/2022
Hb - 12.3 gm %
BGRH - B positive
Other - WNL
HIV, HCV, HbsAg, VDRL - Negative
BT - 1min 35 sec
CT - 2min 30 sec
Thyrodi profile - WNL

Anti Mullerian Hormone (24/03/23) - 0.508 ng/ml

Urine routine and micro - Normal study
USG – TVS(Trans Vaginal Sonography):
Ut:
Ante verted normal
Right ovary - Normal
Left ovary – A Follicular cyst (28*24 mm),
ET - 8mm on 16th day of menstruation

HSG on dated (18/09/2021): Bilateral Cornual Blockage

Husband Semen Analysis (24/02/2021)
Liquefaction within - 20 minutes
Fructose - present
Reaction - Alkaline
Total sperm count - 72 mill/ml
Motility
Active Motile 60 %
Sluggish Motile 10%
Non motile 35%

Nidanas:
Viharaja - Vega Vidharana, Ratri Jagarana, Divasvapna
Manasika - Bhaya, Shoka, Chinta, Krodha

SAMPRAPTI (PATHOGENESIS)
- **Dosa** - Vatapradhana Tridosh
- **Dushya** - Rasa, Rakta, Artava
- Agni - Jatharagni, Dhatvagni
- Srotasa - Artavavaha (Artava-Bija-Vaha)
- Udbhavasthana - Pakvashaya
- Srotodushit - Sanga
- Sthana Samsraya - Artava Vahi Dhamani (Fallopian tubes), Beejakosha, Yoni
- Roga Vinishchaya - Vandhyatva
- Sadhyasadhyata - Krichsadhya

Nidana Sevana
Vitiation of Jataragni
Improper Aharapachana
Improper formation of Ahara Rasa
Rasa Dhatu Kshaya
Artava Dhatu Kshaya and Utrotratara Dhatu Kshaya
Vandhyata

Vataja Nidanas
Kaphaja Nidanas
Pittaja Nidanas
Vata Prakopa
Kapha Prakopa
Pitta Prakopa
Specially Ruksha guna
Sthira – Manda Guna
Ushna-Drava

Sthanasanshraya in Artava
Beeja Vaha Srotasa (Fallopian Tube)
Sankocha
Shopha
Paka
Sanga
Srotodushti Artava Beeja Vaha Srotasa Avarodha (Tubal Blockage)

Therapeutic intervention
Details of therapeutic intervention shown in table 1
Follow-up and Outcome
Within 3 months of treatment, she got conceived in March 2023. Her LMP was 02/02/2023 and urine pregnancy test was found to be positive on 05/03/23. She underwent USG on 09/03/23 which suggested that there is a single live intrauterine gestation, the yolk sac with fetal pole was seen with GA of 6.1 weeks. After that normal antenatal care was given to patient. Detailed anomaly scan and growth scan was done and no any gross anomaly detected. After Following normal antenatal regimen, she delivered a healthy female baby on 01/11/2023.

Discussion
The incidence of infertility is increasing by changed life style in urban India i.e. irregular working hours, late marriage, sedentary lifestyle, professional and social stress on young couples, genetic disorders. Four essential factors described by Acharya Sushruta are Ritu, Kshetra, Ambu, and Beeja. For healthy progeny, health of mother is the basic need as these essential factors depend upon normal status of female. Anyhow hampering/ insufficiency of these four factors may interfere the process of healthy conception and can be causative factor of Vandhyatva. Acharya Charaka first innumerates all the diseases and then establishes the fact that diseases are innumerable. Tubal blockage is one such disorder. All the three Doshas are responsible for tubal blockage & infertility. But the role of Vata has certainly an edge over the other two. And it was the reason why Acharya Kashyapa mentioned Vandhyatva as Nanatmaja Vikara of Vata. Role of other Doshas cannot be neglected in causing tubal blockage. Kapha has Avarodhaka property which leads to occlusion of tubal lumen. This clarifies the relation of Kapha with tubal block especially when it is more structural than functional. The role of Pitta, either more or less cannot be denied in generation of tubal blockage. Tubal blockage, in most of the cases, is the outcome of previous reproductive tract infection. Pitta is the main responsible Dosha for Paka, and thus, one of the responsible factors for tubal infertility too. As previously mentioned, the pathogenesis of Tubal Blockage the treatment protocol for the patients, local administration of some drugs with Lekhana(scraping) properties seems to be of great use for clearing of blockage. The only way is to address the problem at its root by Srotoshodhana, Agnideepana and Vatanulomana are the main principles to be achieved.

Vaishvanara Choorna having Dipana(appetizer) and Pachana(digestive) properties helps in Agni Vardhana (enhancing digestive fire), which in turn corrects Dhatu Parinama (transformation of Dhatu).

Virechana: Virechana helps in attaining Agni Dipti and Sroto Vishuddhi (purification of channels) and hence supports the proper Dhatu formation.

Virechana (Samshodhana therapy) is a bio cleansing method of micro channels (minute Srotas). Fallopian tube can be correlated with micro channel related to Artavavaha Srotas. So any obstruction in
fallopian tube can be removed by *Virechana Karma*. It is not only clearing *Srotasa*, but also increasing the potency of ovum and sperm for fertilization, so increasing the conception capability *Virechana* is included in this protocol.

**Basti Karma:** *Basti* was given to the patient for the purpose of *Vata Anulomana, Vrishya* and *Stroto Shodhana*. As tubal blockage is a disorder of *Apana Vayu Kshetra* and *Basti* is thought to be best treatment for *Vatika* disorders. According to *Acharya Vagabhatta*, *Uttarabasti* should be applied after giving 2-3 *Niruhabasti*.([10]) *Yuktaratha Basti* is a type of *Niruhabasti* which was selected in which patient can travel even after administration of *Basti*.([11])

**Uttarabasti:** *Uttarabasti* [Intra Uterine Uttarabasti (IUUB)] with various medicated oil / *Ghee* is a unique procedure mentioned in Ayurveda especially for the treatment of all gynecological disorders i.e. *Vandhyatva, Artavadusti* and other *Yoni Roga* where other treatments fail. *Uttarabasti* acts on endometrium, increases receptivity of endometrium and facilitate ovulation and nidation of fertilized ovum.

**Apamarga Kshara Taila**([12]): As it is already mentioned, that tubal blockage has been considered as the *Tridoshaja* condition dominantly *Vata-Kapha Dosha*. The drug assumed as effective to open the fallopian tube was considered to have *Vata kapha Shamaka & Tridosaghna* properties. Local administration of any drug containing *Sukshma, Laghu, Sara, Vyavayi, Vikasi, Pramathi* etc. *Guna, Katu Vipaka & Ushna Virya* can be assumed to have some effective role in removing tubal blockage. *Apamarga-Kshara Taila* works with its *Tikshna & Vata-Kapha Shamaka* properties in removal of blockage.

**Nagakesara Choorna:** *Nagakesara* having *Tikta, Kashaya Rasa, Ruksha,Ushna Guna,* and *Vata-Kaphahara* properties. Due to its *Ushna Virya* it performs *Deepan, Pachan* and *Srotoshodhan Karma* which further leads to *Samyaka Rasadi Dhatu Nirmana* resulting in *Samyaka Artava Nirmana* or *Beeja Nirmana*.

**Conclusion:**

Though there are no direct references for Tubal blockage one can understand the *Dosha, Dushya* and *Srotho Dushti Lakshana* and the right type of treatment protocol can be advised. In contemporary medicine, management includes hormonal correction, ovulation induction and ART (Artificial Reproductive Techniques). Most of the patients with infertility due to tubal blockage and low AMH end up with IVF(In-vitro Fertilization) management. The aim is to enhance the proper functioning of reproductive system by providing natural and effective medicines. The study shows significant results in the management of infertility due to tubal blockage. This treatment protocol helps in opening of tubes, improve ciliary movement, improve receptivity of endometrium & potency of ovum and overall improve hormonal balance. So, it can be concluded that *Ayurvedic* approach would be beneficial in preventive & conservative management.

<table>
<thead>
<tr>
<th>Date</th>
<th>Procedure</th>
<th>Drug</th>
<th>Dose</th>
<th>Route of administration</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>12/12/2022-16/12/2022</td>
<td>Deepana Pachana</td>
<td>Vaishwanara Choorna</td>
<td>3 gm twice a day,</td>
<td>Oral</td>
<td>5 days</td>
</tr>
<tr>
<td>Date Range</td>
<td>Procedure</td>
<td>Quantity/ Form</td>
<td>Quantity/ Form</td>
<td>Form</td>
<td>Days</td>
</tr>
<tr>
<td>---------------------</td>
<td>------------------------------------------------</td>
<td>-----------------------</td>
<td>-----------------------</td>
<td>----------</td>
<td>------</td>
</tr>
<tr>
<td>17/12/2022-21/12/2022</td>
<td>Snehapan Goghrita</td>
<td>Before meal with lukewarm water</td>
<td>1&lt;sup&gt;st&lt;/sup&gt; day-30 ml 2&lt;sup&gt;nd&lt;/sup&gt; day-60 ml 3&lt;sup&gt;rd&lt;/sup&gt; day-90 ml 4&lt;sup&gt;th&lt;/sup&gt; day-120 ml 5&lt;sup&gt;th&lt;/sup&gt; day - 150 ml</td>
<td>Oral</td>
<td>5</td>
</tr>
<tr>
<td>22/12/2022-25/12/2022</td>
<td>Sarvanga Abhyanga-Swedana</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>4</td>
</tr>
<tr>
<td>25/12/2022</td>
<td>Virechana Abhyanga with Bala Taila Sarvang Swedana with Dashamoola</td>
<td>60gm</td>
<td>Oral</td>
<td>1 day</td>
<td></td>
</tr>
<tr>
<td>09/01/2023-11/01/2023</td>
<td>Yuktaratha Basti</td>
<td>Once a day before food</td>
<td>Rectal</td>
<td>3 days</td>
<td></td>
</tr>
<tr>
<td>09/01/2023-14/01/2023</td>
<td>Uttarbasti Apamargakshara Taila</td>
<td>5ml</td>
<td>Intra Uterine</td>
<td>6 days</td>
<td></td>
</tr>
<tr>
<td>09/01/23-02/02/23</td>
<td>-</td>
<td>Nagkeshara Choorna</td>
<td>6gm once a day with 250 ml milk</td>
<td>Oral</td>
<td>24 days</td>
</tr>
<tr>
<td>06/02/23-08/02/23</td>
<td>Yuktaratha Basti</td>
<td>Conent mentioned in table no. 2</td>
<td>Once a day before food</td>
<td>Rectal</td>
<td>3 days</td>
</tr>
<tr>
<td>06/02/23-11/02/23</td>
<td>Uttarabasti Apamargakshara Taila</td>
<td>5ml</td>
<td>Intra Uterine</td>
<td>6 days</td>
<td></td>
</tr>
<tr>
<td>06/02/23-09/03/23</td>
<td>Nagkeshara Choorna</td>
<td>6 gm once a day with 250 ml milk</td>
<td>Oral</td>
<td>29 days</td>
<td></td>
</tr>
</tbody>
</table>

**Table No. 2 Ingredients of Yukthratha Basti**

<table>
<thead>
<tr>
<th>No.</th>
<th>Drug Name</th>
<th>Botanical Name</th>
<th>Part used</th>
<th>Quantity</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Eranda</td>
<td>Ricinus cumminis Linn.</td>
<td>Root</td>
<td>500ml (from 125gm coarse powder)</td>
<td>Kwatha</td>
</tr>
<tr>
<td>2</td>
<td>Madanphala</td>
<td>Randia dumetorum Lamk.</td>
<td>Dried fruit</td>
<td>8gm</td>
<td>Kalka</td>
</tr>
<tr>
<td>3</td>
<td>Vacha</td>
<td>Acorus calamus Linn.</td>
<td>Rhizome</td>
<td>8gm</td>
<td>Kalka</td>
</tr>
<tr>
<td>4</td>
<td>Pipali</td>
<td>Piper longum Linn.</td>
<td>Dry fruit</td>
<td>8 gm</td>
<td>Kalka</td>
</tr>
<tr>
<td>5</td>
<td>Madhu</td>
<td>Mel departum</td>
<td>-</td>
<td>75gm</td>
<td>-</td>
</tr>
<tr>
<td>6</td>
<td>Saindhav</td>
<td>Sodium chlorodum</td>
<td>-</td>
<td>12gm</td>
<td>-</td>
</tr>
<tr>
<td>7</td>
<td>Tila Taila</td>
<td>Sesamum indicum Linn.</td>
<td>Seed oil</td>
<td>150 ml</td>
<td>Taila</td>
</tr>
</tbody>
</table>
**Figure 1** HSG Report before treatment

**Figure 2** AMH report before treatment
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