Uttarabasti – An Alternative Treatment For Tubal Block Induced Infertility.

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ABSTRACT

Introduction – Infertility is defined as the inability to conceive after at least one year of coitus without using any contraceptive method. The causes for infertility may lie with either one or both of the partners. The causes of infertility in female patients can generally be attributed to anovulatory cycles, endometriosis, PCOD, PID, uterine fibroids or blockage of fallopian tubes. Tubal blockage was the only reason for infertility in all the patients as confirmed by HSG and all the other reports of investigations like follicular study and semen analysis were found to be normal. A total of 30 patients registered with infertility induced by tubal block as confirmed by HSG. Moreover, much work done on uttarabasti has also met with limited success rate owing to complications like uterine distension, tubal distension, cervical trauma, need of local anesthesia and abdominal discomfort. Administration of uttarabasti for the elimination of tubal block has been discussed earlier in certain research papers however, this study intends the application of methods mentioned in the classics to try and eliminate all the above mentioned complications without deviating from the Ayurvedic principles and achieve the expected results.

Uttarabasti as alternative treatment -
"Vandhyatva" is a term used in Ayurvedic samhitas for infertility. According to Ayurveda the normal and healthy state of all the factors of rutu kshetra, ambu and bejaa is essential for conception. Rutu implies the fertile period of the menstrual cycle and a normal and healthy menstrual cycle indicates normal functioning of the female reproductive system. The term kśetra stands for the female reproductive organs and the normal structure and physiological functioning of this system is vital for conception. Ambu implies the provision of ample nutrition which is crucial in maintaining the healthy state of the mother and fetus both. Bejaa implies the seeds (~ ovum and sperm) and the health of these factors is also an indispensable component for timely conception. Abnormality in any of these may either lead to problems in conception or infertility. Ayurvedic texts do not describe ‘tubal block’ as the cause of infertility. However, tubal block can be understood as the structural abnormality of the reproductive system and be treated as kśetra vikriti.

Uttarabasti is an important Ayurvedic pancakarma therapy mentioned in the classics for the treatment of urinary-genital disorders in both male and female patients. Along with other indications, the classics particularly mention this therapy for the treatment of ‘vandhyatva’ or infertility in female patients. Uttarabasti in female patients implies the intrauterine instillation of medicated oils or decoctions. Uttarabasti therapy has been successfully practiced by Ayurvedic physicians for generations together for the treatment of infertility and other gynecological disorders. Though several researches have been done for the successful administration of uttarabasti in several gynecological disorders, there are not many researches which indicate a direct correlation between the administration of uttarabasti and the elimination of tubal blockage confirmed by HSG. Moreover, the treatment of infertility induced by tubal blockage confirmed by HSG. Moreover, much work done on uttarabasti has also met with limited success rate owing to complications like uterine distension, tubal distension, cervical trauma, need of local anesthesia and abdominal discomfort. Administration of uttarabasti for the elimination of tubal block has been discussed earlier in certain research papers however, this study intends the application of the methods mentioned in the classics to try and eliminate all the above mentioned complications without deviating from the Ayurvedic principles and achieve the expected results.

The modification of procedure includes the administration of niruha basti with dashmoola kwatha one the fifth day just after the cessation of menstruation and the placing of pichu (~ vaginal tampon) dipped in sahachar taila for 3 hrs, for two consecutive days after niruha basti. The patient thus prepared is then administered uttarabasti with sahachar taila without the need of any kind of local anesthesia.

Aims and objectives – The aims of the study included –

1) Evaluation of the efficacy of the therapy of uttarabasti in eliminating tubal blockage confirmed by HSG.
2) To eliminate the complications like vulval edema and to avoid the use of local anesthesia with the inclusion of pre-procedures like niruha basti and pichu therapy.
3) Determine the efficacy of sahachar taila in uttarabasti for eliminating tubal blockage.

Materials and methods – A total of 30 patients registered with the Bharati Ayurveda Hospital during 2006 - 2009, for the treatment of infertility induced by tubal block as confirmed by HSG,
were selected for the study. Total number of patients who reported to the hospital during this period with HSG reports was 126. Patients with bilateral or unilateral block, both were selected for the study.

**Inclusion criteria** –
1. Patients within the reproductive age of 20 – 35 yrs of age.
2. Patients with reported primary or secondary infertility of more than one year.
3. Patients with tubal blockage induced infertility as confirmed by HSG or diagnostic laproscopy (for proximal tubal block). Normal anatomical status of the reproductive system, especially the uterine cavity was observed in the reports.
4. Patients who did not show any other reason for infertility as confirmed by follicular study and analysis of partner were selected for the study.

**Exclusion criteria** –
1. Patients suffering from any kind cervical or vaginal infections and/ or abnormalities like peritubal adhesions.
2. Patients unable to take lithotomy position for the administration of uttarabasti.
3. Patients suffering from disorders like malignancy of urinogential organs, any kind of urinogential infections, cervical stenosis, endometriosis, HIV, and any other complications related to the reproductive system or patients suffering from any chronic debilitating disease.
4. Patients more than 40 years of age.

**Investigations done before treatment** –
1. CBC, ESR, Blood group
2. HIV
3. HBsAG
4. Urine routine.
Special investigations carried out for the purpose of study included –
1. HSG before and after treatment.
2. PAP smear
3. LFT, RFT
4. Hormonal assay
5. USG to rule out any kind of related pelvic pathology.

**Treatment protocol** -
Patients were asked to report to the hospital immediately after the cessation of menstruation.

1. Each patient was administered local snehana (~ oleation and light massage) of the lower abdominal and back region with tila taila (sesame seed oil) and nādi svedana (hot water fomentation).
2. Niruha basti– Niruha basti was administered with the help of enema pot.
3. Drugs used for niruha basti included a blend of – Dashmoola kwatha½ litre + 20 cc tila taila + 10 gm honey + 2 gm saindhava.
4. Pichu soaked in sahachara taila was inserted and kept for 12 hours with proper aseptic precautions in the operation theatre using autoclaved instruments. Snehana and svedana were done as pre-procedures of uttarabasti administration.

**Procedure for administration of uttarabasti**–
Patient was placed in dorsal lithotomy position and perivaginal cleaning by betadine and vaginal cleaning by normal saline and draping was done. The cervix was visualized with the Sim’s speculum and the anterior vaginal wall retractor. The cervix was held by the elice. A syringe was filled with 5 cc of sahachara taila and an infant feeding tube was attached to the same. The tube was passed into the uterine cavity with the help of artery forceps and the drug was pushed above the level of the internal os with constant pressure to help it reach up to the tubes. 1/2 cc of oil was instilled at every 5 min. interval at one time gradually to avoid uterine distention and oil embolism. A total of only 2 cc of oil was instilled in the uterine cavity. Patient was kept in head low position for about half an hour and sent home after an hour. The same position and method for the administration of uttarabasti has also been described in the texts. [4]

The patients were asked to avoid excessive physical strain and to abstain from coitus during the course of the treatment. The same treatment was followed for three months after the cessation of menstrual periodic cycle.

Standardization and authentication of the drug (sahachar taila) used for the purpose of uttara basti, dashmoola kwatha(used for niruha basti) was done prior to the start of the treatment.

<table>
<thead>
<tr>
<th>No</th>
<th>Post Menstrual Day</th>
<th>Treatment Medicine</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>5th</td>
<td>Niruha Basti (Decoction Enema)</td>
</tr>
<tr>
<td>2</td>
<td>6th &amp; 7th</td>
<td>Pichu therapy (Insertion of medicated oil tampon in vagina)</td>
</tr>
<tr>
<td>3</td>
<td>8th &amp; 9th &amp; 10th</td>
<td>Uttarakasti (Intrauterine instillation of medicated oil)</td>
</tr>
</tbody>
</table>

**Post procedural observations after administration of uttarabasti:**
1. Mild abdominal discomfort – Hot water bag was given for fomentation.
2. Moderate abdominal discomfort- Shankhvati 250 mg was administered with hot water.
3. None of the patients reported of severe abdominal discomfort.
4. Pratyagama of basti dravya or the excretion of medicine instilled by basti treatment from the uterus is essential part of the uttarabasti procedure. All the patients reported the flowing out of the basti dravya almost immediately after getting up from the bed.

**Observations** –
A total of 30 patients were administered uttarabasti for the treatment of tubal block. Out of these 30 patients, the HSG reports of 16 patients showed bilateral tubal block at distal end, while 12 patients reported of mid segment tubal block. 2 patients had proximal block as confirmed by laparoscopy.

Out of these 30 cases, 19 cases were of secondary infertility, while 11 were primary infertility patients.

**Results** –
1. HSG reports of 21 patients showed both the tubes open after treatment for three consecutive months. 7 patients showed single tube open, while 2 patients suffering from proximal end blockage did not show any changes in
Table – Cases of secondary and primary infertility

<table>
<thead>
<tr>
<th>No</th>
<th>Type of infertility</th>
<th>No of patients</th>
<th>Conceived after treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Primary</td>
<td>11</td>
<td>05</td>
</tr>
<tr>
<td>2</td>
<td>Secondary</td>
<td>19</td>
<td>09</td>
</tr>
</tbody>
</table>

Discussion –
Uttarabasti is indicated in the classics for the treatment of secondary and primary infertility. The local effect of the basti treatment to eliminate the physical cause of infertility i.e. tubal blockage.

3. Follow-up on conception was available only till after one year of treatment. It was then considered that only 14 patients out of 30 conceived after treatment.

4. Patients with distal and midsegment blocks showed better response to treatment however, proximal block could not be eliminated with this procedure. (Table 1.6)

5. In 93% patients shown efficacy of sahachar taila uttarabasti. 46% patients conceived within the period of 3-12 months of period.

Vandhaya is infertility caused due to a range of different reasons including congenital and acquired causes. Tubal blockage induced infertility has not been mentioned in the texts but as evident from modern investigations like HSG and laparoscopy, accounts to about 20 - 30 % of infertility cases. Though the Ayurvedic treatment of uttarabasti has been successfully administered for eliminating tubal blockage by many Ayurvedic physicians till date, determination of the efficacy of this treatment with proper research protocol and standards has hardly been done. The local and systemic effects of uttarabasti have been studied and documented. This study concentrates largely on the local effect of the basti treatment to eliminate the physical cause of infertility i.e. tubal blockage.

The treatment protocol for this study as mentioned above, was established using the guidelines offered in the classics. The administration of niruha basti prior to uttarabasti is a procedure mentioned in the classics, however the placing of pichu in the vagina, though not particularly mentioned there, had been done with the aim of conditioning the vagina and the smoothening of cervix with snehana therapy to avoid the use of local anaesthesia and allow the easy insertion of the infant feeding tube into the uterine cavity and the complications like vulval edema post treatment. The drugs used for the treatment, dashmoola kwath for niruha basti and sahachar taila for pichu and uttarabasti were also selected on the basis of their unique attributes mentioned in the texts.

Niruha basti – Niruha basti was administered on the day after the cessation of menses for the purpose of vatanulomana (~ redirecting the course of vata dosha) and cleansing of the bowels. The procedure followed here in this study calls for the administration of niruha basti prior to the administration of uttara basti. This is so because the texts advice the administration of niruha basti prior to the administration of sneha basti since it helps to clear bowels and eliminate all the stagnant wastes from the alimentary tract and also to redirect the course of the vata dosha (vatanulomana), which is extremely essential before imparting any treatment. The treatment basti directly affects the area of the apana vayu which is responsible for the functioning of all the urinogential organs located in the pelvic region. Thus, it helps conditioning and preparing the pelvic area and the organs located therein for better acceptance and absorption of medicinal oils instilled therein. The texts also state that the therapy of uttarabasti receives its name as ‘uttara basti’ because it should be administered after the therapy of niruha basti (niruhat uttarayosmat tasmauttaro samagaykha) [5]. Niruha basti was administered to every patient on the morning after the cessation of menstrual flow, between 10:00 to 11:00 am. The niruha basti drug was a compound mixture of the following ingredients – [7]

- a) Dashmoola decoction – ½ lt.
- b) Sesame oil – 20 cc
- c) Honey – 10 gm
- d) Rock salt - 2 gm.

The ingredients of the drug used for niruha basti and attributes of each are provided in the table –

1.1 – Ingredients of niruha basti -

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>Proportion</th>
<th>Attributes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Sandhav (rock salt)</td>
<td>2gm</td>
<td>Lekhana, vataghna, niruhopavogi dravas</td>
</tr>
<tr>
<td>2. Honey</td>
<td>10gm</td>
<td>Lekhana, kaphaghna, niruhopavogi dravas</td>
</tr>
<tr>
<td>3. Dashmoola decoction</td>
<td>1.5 lt.</td>
<td>Vataghna, important ingredient for niruha (niruhadi gana), shalaghna, vatanulomana</td>
</tr>
<tr>
<td>4. Sesame seed oil</td>
<td>20 cc</td>
<td>Vataghna, vatanulomana, niruhopavogi dravas</td>
</tr>
</tbody>
</table>

Dashmoola kwathawas prepared fresh during administration of each niruha basti for every patient.

Dashmoolakwathapreparation – The decoction was prepared by boiling together one part of coarse dashmoolo powder in eight parts of clean palatable water. The mixture is boiled till only 1/4th of the decoction remains behind which is then strained and used.[10]

The dashamula kwath is ushna (~ hot), vataghna (~ pacifies the vata dosha), anaha nashaka, (~ eliminates bloating or augmentation of gas in the abdominal cavity), bastishodhana (~ cleanses the bowels) in attributes.[10] It is has also been mentioned in the ‘niruhopavogana’ (~ drugs used for niruha basti) and is useful for niruha basti to clear the bowels and to redirect the course of vata dosha (vatanulomana).[10]

The attributes of the dashamula as a formulation and the independent attributes of each of its ingredients w.r.t. the present study have also mentioned in the table –

1.2 – Ingredients of dashmoolo kwatha-

<table>
<thead>
<tr>
<th>Ingredients of dashmoolo</th>
<th>Attributes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Bilva</td>
<td>Vataghna, kaphaghna, ushna, pachana, vatanulomana</td>
</tr>
</tbody>
</table>
The treatment of niruha basti was followed by pichu therapy. The pichu, soaked in sahachar taila, was inserted and held in the vaginal cavity for three hrs daily, for two consecutive days after niruha basti. The therapy of pichu helped the softening and conditioning of the internal mucosa of the vagina and considerably reduced the chances of vulval edema post uttarabasti. This therapy is known to impart mruduta (~ softness or suppleness) to the system.\[12\] It was also observed during therapy that the administration of uttara basti without anesthesia did not lead to any complications if the vagina was preconditioned for the treatment.

The sahachar taila is a formulation mentioned in the Bharat Bhaishajya Ratnavali especially for the treatment of anomalies caused due to vata dosha. It is particularly mentioned for the treatment of chronic diseases which are difficult to cure and are caused due to the anomaly of vata dosha. It is also indicated specifically for the treatment of yoniyaoga and is known to remove stambha (~ stiffness and obstructions) and shosa (~ excessive dryness).\[12\] The contents of this formulation and their independent attributes have been mentioned in the table.

1.3 – Ingredients of Sahachar taila

<table>
<thead>
<tr>
<th>Ingredients of sahachar taila</th>
<th>Attributes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Sesame seed oil</td>
<td>Ushna, vatahagna,</td>
</tr>
<tr>
<td>2. Sahachar kwatha</td>
<td>Vataghna, vatanulomana</td>
</tr>
<tr>
<td>3. Dashmoola kwatha</td>
<td>Tridoshaghna, vatanulomana,shothaghna, anahaghna,</td>
</tr>
</tbody>
</table>

The uttara basti, as mentioned in detail above, is a minor operative procedure which can be performed at OPD level but in well equipped operation theater to achieve complete aseptic technique to avoid pelvic inflammation & vaginal infections. The classics advise this therapy for the treatment of almost all kinds of urinogenital disorders. However, the therapy is largely practiced today for the treatment of infertility. The uttarabasti has to be administered in the rutukula (~ just after the menstrual period) after having purified the body with niruha basti. This is so that the garbhashayya is ready to absorb the sneha (medicated oil) at that time and also that during menstruation the vaginal and uterine orifices are open (apavrutta yoni) and the medicines can be instilled easily inside the uterus.\[12\] The text says that placing the pichu (~ pacification of aggravated vata dosha) attributes. Uttarabasti is administered during the rutukala and hence the aforementioned protocol also included the uttarabasti administration for three days after the pichu therapy.\[12\] Specifically classifying the cases of tubal block induced infertility and administering uttarabasti was the purpose of this study. Successful elimination of tubal block in 93% patients and conception in about 46% of patients indicates the high efficacy of the treatment.

The probable mode of action of the entire treatment protocol of uttarabasti of sahachara taila can be understood and interpreted in the following ways –

1. The therapy of snehana and svedana imparted prior to the niruha basti and uttarabasti both are extremely important.\[14\]

The therapy is known to impart mruduta (~ softness or suppleness) to the system.\[12\] The text states that placing the pichu in the vaginal passage helps alleviate pain and smoothens the inner walls.

4. It was also observed that pichu therapy considerably helped reduce the chances of post treatment vulval edema and other complications.

5. The uttara basti, as per the classics is administered during the rutukula, just after the cessation of the menses when the garbhashayya is actively preparing the endometrial bed and is ready to absorb the sneha or medicated oil.

6. The high intrauterine administration of uttarabasti aids the direct action of the drug on the affected area and helps remove the blockage of the tubal lumen by mechanical/drug action on the site of obstruction.

7. The instillation of drug directly into the uterine cavity ensures maximum absorption and optimal drug action (vathaghna) on the affected area.

8. The therapy also probably helped restore the normal function of the tubal cells, stimulating these and facilitating the movement of the ovum towards the uterus.

9. The oil is useful in regeneration of the endometrial lining of the tubes and to scrape the intratubal mucus plugs and break the intratubal adhesions with its usha attributes.

Thus, uttarabasti can be termed as an extremely effective procedure for the treatment of tubal block induced infertility of both primary and secondary type. The treatment is cost effective and can be advised to the economically backward sections of the society. It does not require anesthesia or hospitalization for more than 4-5 hrs. and also eliminates the possibility of all kinds of complications which may arise post surgical procedures.

Though this study reports about 93% elimination of tubal blockage and 46% rate of conception, a more wide spread study with increase in sample size shall establish the efficacy of uttarabasti administered with this particular treatment protocol. More conclusive and definitive research on the mode of action of drugs can be initiated with histopathological studies of reproductive organs at different stages.

Conclusion - Uttarabasti can be termed as a highly effective treatment for tubal block induced secondary and primary infertility. Use of modified treatment protocol, with the administration of niruha basti and pichu therapy, increases the efficacy of the treatment and eliminates the possibility of complications post procedure. Sahachar taila used for the purpose of pichu therapy and uttarabasti is effective in eliminating tubal blockage with its lekhana (~ abrasive action/scrapping) and vataghna (~ pacification of aggravated vata dosha) attributes. Uttarabasti which is a cost effective, non-surgical procedure carried out without local anaesthesia should be propagated as a safe Ayurvedic alternative for treatment of tubal block.
REFERENCE