

## UTTAR BASTI IN THE MANAGEMENT OF FEMALE INFERTILITY: AN EVIDENCE BASED REVIEW

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### ABSTRACT

Infertility is a disease of female reproductive system which impairs the capacity of reproduction. Although the prevalence of infertility is believed to have remained relatively stable during past 40 years, there is no doubt that the demand of infertility evaluation and treatment has increased considerably. *Kashyapa* says that couples conceiving naturally due to deeds of previous life are considered as fortunate, otherwise they should be treated. *Uttar Basti* has been indicated in female infertility because it facilitates direct drug administration into uterus. According to *Charaka*, due to normalization of *vata* caused by *Uttar Basti*, the *yoni* retains the *garbha* quickly. Present review is an effort to understand the efficacy of *Uttar Basti* in female infertility according to evidence based clinical trials. Considering the effects of *Uttar Basti* it was proved as a better palliative treatment to many female disorders helps to revitalize the hormonal system and giving fruitful result.

**Keywords:** *Uttar Basti, Garbha, Yoni, Vata, Infertility, Tubal block*

### INTRODUCTION

Infertility is generally defined as one year of unprotected intercourse without conception. Sub fertility to describe women or couples who are not sterile but exhibit decreased reproductive efficiency.<sup>1</sup> According to the WHO report about 2-10% of couples worldwide are unable to conceive primarily and about 60-80% couples in the world are infertile. It is estimated that 10% of normally fertile couples fail to conceive within their first year of attempt. Further 10-25% couples experience secondary infertility.<sup>2</sup> Among these couples, causative factors are found about 30-40% in females and 10-30% in males. Genetic factors, changed lifestyle, increased stress and environmental pollution are identified as factors contributing to the rise of infertility. It is a social

stigma where the female partner is blamed leading to marital disharmony.<sup>3</sup>

*Charaka* and *Vagbhata* have mentioned *Vandhya* under the description of *Beejamsa dushti*.<sup>4,5</sup> According to *Charaka* abnormality of any one out of *Shadbhavas* (*matraj, pitraj, atma, satwa, satmya, rasa*) will cause the failure to conceive. *Sushruta* has mentioned *Vandhya* in *vataja yoniroga*.<sup>6</sup> In *Kashyap Samhita* *Vandhyattva* is mentioned in eighty *rogas* of *vata*. *Bhela* says that due to abnormalities of *bija* of mother and father, non consumption of congenial *rasas* (malnutrition leading to improper formation of *rasa dhatu* and its updhatu *artava*), and disorders of *yoni*, the women becomes infertile.<sup>7</sup> *Bhavprakash* has mentioned *Vandhya* in *yonirogadhikar* and men-

tioned *Artavanasha* as one among the 80 *vatananatmaja vikara*.<sup>8</sup>

*Harita* is the first who classified *vandhyatva* in detail. *Harita* has included childhood, *garbhkoshbhanga*, loss of *dhatu*s and constriction of uterus and vulva due to coitus having been done with the girl before her menarche also in the causes of infertility. *Harita Samhita* mentions six types of *vandhya* like *Kakavandhya* (secondary infertility), *Anapathya* (primary infertility), *Garbhasrahvi* (repeated abortions), *Mrtavatsa* (repeated still births), *Balakshaya* (Nutritional) and *Vandhyatva* due to injury to *garbhashaya* or *bhaga*.<sup>9</sup>

According to *Ayurveda*, important factors for conception are *Rutu* (fertile period), *Kshetra* (uterus & reproductive organs), *Ambu* (proper nutrient fluid), *Bija* (shukra-shonita) & normalcy of *hridaya* (psychology). Abnormality of properly functioning *vayu* and *shadbhavas* can cause infertility. *Yoni pradasha* refers to abnormalities of vagina, cervix, uterus, fallopian tubes which hinders fertilization.<sup>10</sup>

Management includes *Daivavyapashraya* and *Satwavajaya* Chikitsa which act through Psychic component. *Yuktivyapashraya* involves *antah* and *bahi parimarjana* (detoxification) and *Shamana* (palliative treatment). Depending upon the vitiation of the *dosha* and condition of the diseases, internal cleansing with internal oleation or intake of unctuous substances, vaginal application of pastes & *uttar basti* are administered.<sup>11</sup> *Uttar basti* is a type of *basti upakrama*, a mode of administration of drug. *Uttar basti* has been well highlighted in the classics for the management of most of the gynecological disorders.<sup>12,13</sup> *Charaka* recommends the use of *basti* for repeated still births.<sup>14</sup>

**Definition:** *Uttar basti* may be defined as a route of administration of drugs through vesicular/urethral or genital route in females.

**Indications:** *Uttar Basti* is indicated in the following conditions.

1. *Yoni vyapath*
2. *Pushpanasha*
3. *Garbhashaya vikaras*<sup>15</sup>

**Quantity & Frequency:** *Uttar basti* can be administered three times a day on 3 consecutive days. The quantity mentioned is ½ pala (20g).<sup>16</sup> *Uttar basti* is advised to be given during the *ritukala* (period of ovulation) when *yoni mukha* is open.<sup>17,18</sup>

**Procedure:** The physician should administer it to the women lying in supine position with knee flexed. Then introduce the nozzle into the vagina by pressing and squeezing the pouch.<sup>19</sup> The process is repeated for 3–4 times after the previous *dravya* come out.<sup>20</sup>

The present review gives an overview of the potential use of *Uttar Basti* in the treatment of female infertility including an evidenced based evaluation of its efficacy. A brief summary of these works have been presented below:

1. **Kamayani Shukla (2010)**<sup>21</sup>: This study was a randomized clinical trial. Patients of child bearing age having complaint of failure to conceive due to tubal factor selected. For group A, *Yava Kshara Taila* & for group B, *Kumari Taila* intra uterine *Uttar basti* (5ml, after cessation of menstruation 6 days with a gap of 3 days in between for 2 consecutive cycles) was given. Tubal block was open in 85.71% patients in group A & in 80% patients in group B.
2. **Anitha S. (2009)**<sup>22</sup>: In this open clinical trial 30 well established tubal block cases in the age group of 20-35yrs were included in the study. *Narayan taila Uttar Basti* was given for 7 days in the dose of 5ml after the

cessation of menstrual cycle. It shows efficacy in 70% cases and 53% cases conceived within 3-12 months period after treatment.

3. **Sushila Sharma (2008)**<sup>23</sup>: This is a case study of a patient with secondary infertility due to anovulation being treated with *Pushpadhanva rasa* and *Ojaswani vati* 1 tablet twice daily for 3 months along with *Panchtikta ghritha* + *Nimba taila uttara basti* ( 5 ml). *Uttar basti* was started on 6<sup>th</sup> day of menstrual cycle and continued alternatively till 12<sup>th</sup> day for 3 cycles. After 5 months patient got conceived.

4. **Chetna M Kodinariya (2008)**<sup>24</sup>: In this clinical trial, 14 patients having cervical cause for infertility were selected in 2 groups to evaluate the efficacy of drugs like *Shatavari ghritha* and *Goghritha uttar basti* ( 5 ml) on 10<sup>th</sup>, 11<sup>th</sup>, 12<sup>th</sup> day after menstruation for 3 consecutive cycles. For diagnosis of cervical cause, cervical mucus test and post coital test were done before and after treatment. Significant results were found in both the groups but *shatavari ghritha* showed better results.

5. **R. Meera (2007)**<sup>25</sup>: In this clinical trial *Mahanarayan taila* was administered among 33 patients with anovulatory cycles in the form of *Nasya* and *Uttar basti*. They were classified into 3 groups; in group B 5ml *Mahanarayan taila* was administered in form of *Uttar basti*, for consecutive 2 cycles, for 3 days after cessation of menstruation. Ovulation occurred in 57% patients in *Uttar basti* group.

6. **Pratibha CK (2006)**<sup>26</sup>: In this clinical trial 20 patients with anovulatory menstrual cycles were selected. Group A treated with *Tila taila* as intrauterine *uttar basti* (5 ml for 3 days in a month for 3 cycles). Group B was treated with *Lashuna taila* intrauterine *Uttar Basti* (10 ml for 3 days in a month for

3 cycles). *Lashuna taila uttar basti* is effective in improving the size of the follicle and endometrial thickness where as *Tila taila uttar basti* is effective in reducing the cellularity of cervical mucus. Out of 20 patients taken up for the study only 2 patients ovulated.

7. **Savaliya Hetal (2005)**<sup>27</sup>: In this clinical trial 46 patients with anovulatory cycles were selected. Group A, *Uttar basti* with *Shatpushpadi taila* 5ml intrauterine and *Shatpushpa Churna* 2g thrice a day orally. Group B, *Shatpushpa Churna* orally and Group C, Placebo drug for 2 months was given. In group A, 13 patients (81.25%) were completely cured (ovulation occurred).

8. **Mishra Gayathri (2003)**<sup>28</sup>: This is an open clinical study to evaluate the efficacy of *Shatavari taila* and *Garbhaprada* compound on 55 patients. *Shatavari taila uttar basti* (5ml for 4 days after cessation of menstruation for 2 consecutive cycles and *Garbhaprada* compound (2 capsules of 500mg thrice daily given 4<sup>th</sup> day to 12<sup>th</sup> day of menstruation) on *Vandhyatva* w.s.r. to ovulation was carried out. Various relevant information regarding the presentation and demographics of the patients of infertility with special reference to anovulation, clinical approach of *Ayurvedic* regime was obtained in study. All the patients (100%) shown increment in follicular size and improvement in cervical mucus qualities. While 5 patients (72%) shown ovulation.

9. **SP Otta (2002)**<sup>29</sup>: In this controlled single blind clinical trial confined to female infertility, 30 cases were administered with *phala ghritha* (5ml) in the form of *Uttar Basti* in therapeutic dose for 3 consecutive days in each cycle for 3 successive cycles. It was found to be significantly effective in

tubal blockage. Tubal block was open in 75.21% patients.

10. **Shwati Jadhava (2002)**<sup>30</sup>: This is an open clinical study to evaluate the efficacy of *Prajasthapanagana siddha ghritha* and *Prajasthapanagana siddha vati* on 40 patients. *Prajasthapanagana siddha ghritha uttar basti* (3 ml for 3 days for 2 consecutive cycles) and *Prajasthapanagana siddha vati* (5g BD for 2 months) on *Vandhyatva* w.s.r to ovulation was carried out. The overall clinical improvement was better in group A (93%) than group B (91%).

11. **B. Syamala (1991)**<sup>31</sup>: A case report is discussed with the tubal blockage with hydrosalpinx. *Uttar basti* was given with *Dhanvantaram tailam* 5 ml for 7 days from 10<sup>th</sup> day of menses. Tubal patency test was found positive in the 3<sup>rd</sup> month after the commencement of the treatment.

12. **Donga SB**<sup>32</sup>: In this work *Shamimashavaththa ghritha* was administered to 24 patients with anovulatory cycles. Group A treated with *Shamimashavaththa ghritha* as intrauterine *Uttara basti* (5ml for 3 days in a month for 2 cycles) along with *Shamimashavaththaghritha* 10g orally before meal in morning for 2 months. Group B was treated with *Gogritha* (5ml for 3 days in a month for 2 cycles) intrauterine *Uttar Basti* and with *Shamimashavaththaghritha* 10g orally. It was observed that overall clinical improvement (ovulation) was better in group A (65%) than group B.

13. **Dr. K. Bharathi, Dr. K. Gopakumar, Dr. M. V. Acharya**<sup>33</sup>: In this open clinical trial 32 well established tubal block cases in the age group of 20-35yrs were included in the study. *Uttar Basti* with *Ksheerbala tailam* 10 ml for 3 days for 3 consecutive cycles given. Majority of the good and fair

response cases were seen under 20-25 yrs (75%) & 25-30 yrs age group respectively.

## DISCUSSION

Management of infertility involves specific identifiable cause and its correction along with counseling to both the partners. There are many factors responsible for female infertility like anovulatory factor, tubal factor and cervical factor. Ovulation disorder is the most common female infertility factor. Another commonest cause of infertility is Salpingitis, where the lumen of the tube becomes adherent and the passage between the uterus and abdominal cavity is blocked. The cervical factors (altered pH of cervix) are responsible for 5% cases of infertility. Endometriosis and chronic ill health are the other causes of infertility.<sup>3</sup>

In condition of anovulation, *Uttar Basti* removes the *srotosangha* and corrects the *artavagni* which regulates the menstrual cycle, thus resulting in ovulation. Ovaries contain receptors which receive hormones secreted by hypothalamus and pituitary gland. The drug stimulates these receptors, so that proper ovulation occurs in each cycle.<sup>27</sup>

*Uttar Basti* is an ideal local treatment in tubal block and can be adopted for all sorts of problems of infertility as well as reproductive tract disorder. In tubal blockage the drug is reaching in bulk to the site of pathology. Hence *Uttar Basti* relieves tubal block by lysis of adhesions and relieves obstruction.<sup>21</sup>

In cervical factor, drug administered locally in the cervix and absorbed by cervical epithelium due to *sukshma* property of drug. The lipid soluble drug is passively diffused across the membrane in the direction of its concentration gradient. The rate of transport is proportional to lipid: water parti-

tion coefficient of the drug. The more lipid soluble, higher is the concentration and quicker diffusion. In this way altered cervical pH can be corrected by *Uttar Basti*.<sup>24</sup>

*Uttar Basti* helps in endometrial conditions by improving thickness of endometrium, improves the quality of endometrium, helps in curing endometriosis, absorption is very fast gives quicker result.<sup>34</sup>

The above mentioned drugs could be regulating the Gonadotropin Releasing Hormone to induce ovulation and improving uterus blood flow, menstrual changes of endometrium. They are useful in infertility resulting from anovulation, cervical factors, tubal factors and immunological disorders. Strict aseptic measures should be adopted to avoid complications.<sup>3</sup>

## CONCLUSION

This review summarizes and evaluates the evidence underlying the use of *Uttar basti* for female infertility. Effective studies are necessary to explore the possible mechanism i.e. effective dose, side effect and safety of *Ayurvedic* medicine in the treatment of infertility. *Uttar Basti* has a lot of therapeutic potential. Proper selection of drug and time of administration is very essential for getting the desired results. *Uttar Basti* has benefit of increasing *ojus*, replenishing the hormonal system and promoting fertility.

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