

Role of Uttarabasti in Various Infertility Factors and Its Outcome

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Abstract:

Infertility is defined as a failure to conceive within one or more years of regular unprotected coitus. Female factor is directly responsible in 40-55% thus it is a major issue in the current era due to the growing number of incidences as a result of combination of various unwholesome environmental, social, psychological and nutritional factors. The most common causes of female infertility are ovulatory factors, endometrial and tubal factors, etc. In Ayurveda, *Vata* is considered to be the root cause behind all the disorders related to the female reproductive system including female infertility. Panchakarma plays an important role in treating female infertility. *Basti Karma* is considered as the most important treatment for *Vataja* disorders according to the classical literature of Ayurveda thus here, *Uttarabasti* is highlighted for the management of gynaecological disorders, wherein medicated oil or ghee is administered directly into the uterine cavity. Ayurvedic treatment modalities can bypass the surgical management to avoid the related burden to provide fruitful outcomes in such conditions. Present review is an effort to understand the efficacy of *Uttara Basti* in female infertility especially in various factors so the relevant data is collected, extracted and analysed.

Key words: Infertility, Uttarabasti, ovulatory factors, endometrial, tubal factors

Introduction:

Infertility is failure to conceive within one or more years of regular unprotected coitus. Conception depends on the fertility potential of both male and female partner. The male is directly responsible in about 30% to 40%. Female factor is directly responsible in 40-55% among which prevalence of infertility due to ovarian factor is 15-25 %, tubal factor 25-35%, uterine factor 10 % and cervical factor 5%.ⁱ

According to Ayurveda, *Vata* is considered as a physiological force as it is responsible for the normal functioning of body systems. Infertility being a *vataja* disorder, demands *basti karma* which is having *sthanika snehana* and *brimhana action*.ⁱⁱ In various gynaecological disorders, *Bastikarma* has been advised through intra uterine route in the form of *Uttarabasti*. *Uttarabasti* helps in expelling the vitiated *Doshas* of uterus and its associated structures i.e. cervix, tubes and ovary, thereby eradicating the morbidity and diseases related to female urogenital system. It rectifies female infertility along with the factors associated to it.

The formulations used in *Uttarabasti* i.e. medicated oil or ghee are endowed with properties such as cleansing the uterus and increasing the strength and vitality of reproductive organs. Due to the local action and the quick penetrating and spreading properties of the drugs, it enters the minute channels and

is absorbed easily. It is the best medium for the drug to cleanse the uterus, to reach the tubal lumen and remove the blockage, to strengthen and activate the endometrial receptivity and to stimulate the hormonal receptivity for normal function of reproductive system.

Definition: The *Basti* which is given through *Uttarmarga* or *Utkrishta Avayava* or therapeutic procedure having *Shreshtha* properties, is termed as *Uttarbasti*. *Uttarmarga* means, *Mutra & Shukra Marga* in Males and *Mutra & Yoni Marga* in females.ⁱⁱⁱ

Properties: *Uttarbasti* is useful to alleviate *Artavadushti*, *Shukradushti*, *Atya-artava*, *Kashtha-Artava*, *Yoni Vyapads* and other factors related to *Vandhyatwa*.^{iv}

Uttarbasti yantra: The *Bastiyantara* is also used to inject the medicine through urinary and vaginal passage for which term *Uttarbasti* is given. The size of *Uttarbasti yantra* and its part is different for male and female.

Uttarbasti yantra contains two parts

1. *Basti Putak* (drug holding bag)
 2. *Basti Netra* (nozzle for inserting drug)
- A. *Basti putaka* : *Basti putaka* can be made up of urinary bladder or skin of animals like goat, pig and sheep or thick cloth etc. It should be clean & without foul smell processed with *Kashaya Dravyas*.^v
- B. *Basti Netra*: *Basti Netra* (nozzle) should be made up of metal like gold, silver, brass etc. In shape it should be tapering like cow's tail and smooth. Its tip should be of the size of the flower stalk of *Jati*, *Karveera* and the *Sarshapa* seed passing worth lumen. The nozzle should have two or three *Karnikas* (rings) to tie up the bag and having the length of ten or fourteen *Angulas*. For insertion through urethra the nozzle should have *mudga* seed passable lumen and ten *angulas* in length. It is also called as *Pushpa Netra*.^{vi, vii}

Length of *Bastinetra* to be inserted for women who has delivered a baby or who is in active reproductive age, four *Angulas* (around 4 cm) nozzle should be inserted in urinary passage. *Uttarbasti* should not be given to unmarried girls in vaginal passage^{viii}.

Administration of Uttarbasti :

Time to Administer :

1. After *shodhana* of women, *uttarbasti* should be given during *Ritukala* (follicular phase or just after menses) as orifices of uterus remain open in this period.
2. *Charaka* told *Rutukala* is the most suitable time for the administration of *Uttarbasti*.
3. *Uttarbasti* should be given after 2-3 *Asthapan basti* during *Ritukala*, as during this period the *yonis* or *garbhashaya* is *avarana rahita* and so *sneha* enters & absorb easily.

Basti Matra

Uttar basti Matra in females is 3-5ml of oil/ghrita.

Uttara Basti Karma

❖ Classical Method ^{ix}

Purva Karma

- As per the derivation of the word *Uttarabasti*, it should be given after the administration of *niruha basti*, according to vagbhata, about 2 or 3 *Niruhbasti* should be given before the administration of *Uttarabasti*.
- *Abhyanga* and *swedana karma* should be done preferably over the back, groin and abdomen then *yavagu* added with ghee should be given for drinking.

Pradhana Karma

- The patient is made to lie down on her back. Then she is made to fold her legs at knee (lithotomy position).
- Then the *basti yantra* containing the prescribed *dravya* (either *kvatha* or *sneha*) is taken and the *basti*
- *Netra* lubricated with *sneha* is carefully introduced into the *apatya marga*.
- *Basti putak* is compressed uniformly, so that the *dravya* can enter the *yoni*.
- It is practically observed that *kvatha* returns immediately whereas *sneha* is retained for some time.
- Such *uttarabasti* can be repeated 2-3 times, in a day and also has to be given consecutively for 3 days.
- Then the patient is advised rest for 3 days before giving another course of *uttarabasti*.

Paschat Karma

- Rest for some time is advisable.
- As far as diet intake is concerned, Acharya suggest that after the *pratyagamana* of *uttar basti*, at evening the patient should be given milk or *yusha*.

Procedure of Uttara basti : Before administration, previous infection should be cleared. After this, 2 to 3 *Asthapana basti* should be given to the patient. The woman should be placed in supine position with flexed thighs and elevated knee. After that *Basti Netra* should be inserted in vaginal passage slowly with steady hand, following the direction of passage then drug should return after some time if not return then again *niruha basti* or *varti* of purifying drugs should be used *uttarbasti* procedure should be carried out by an expert, under all aseptic precautions and sterilized instruments is to be used so there are no any chance of introducing any kind of infection.

❖ Modernized methods for administration:

Instruments Required:

1. Sponge holding forceps
2. Sim's speculum
3. Anterior vaginal wall retractor
4. Vulsellum /Allis forceps
5. Uterine sound
6. Cervical dilator (if necessary)
7. IUI cannula
8. 5 cc syringe
9. Gauze pieces
10. Gloves

11. Towel clips
12. Good light source

Pre- Preparation :

- Counselling is done.
- Written consent is taken.
- Part preparation is done prior to procedure.
- Instruments are checked and trolley is prepared.
- Luke warm medicine is kept ready in IUI canula
- *Yoni prakshalana* with some antiseptic *kwatha* like *panchavalkala /Triphala* is done properly this is followed by *snehana* of abdomen, back, thighs and legs followed by *svedana* especially *nadisweda* on back and lower abdomen.

Procedure:

- Patient is asked to empty the bladder & to lie in lithotomy position on examination table. 2. Private parts are cleaned antiseptically.
- Sim's speculum is inserted; anterior vaginal wall retractor is introduced to expose the vagina & cervix.
- Anterior lip of the cervix is held with the vulsellum or Allis forceps (to reduce the injury to cervix)
- Uterine sound is introduced to see the length of uterocervical canal and position of the uterus. IUI cannula is introduced the drug is injected slowly and steadily.
- Instruments are removed out.

Post- Procedure:

1. Patient was advised to extend and twist her legs, head low position given for 15 min.
2. Pulse and blood pressure recorded for two hours.
3. It is important to watch and observe that the *basti dravya* was expelled out properly or not and then a sterilized gauze piece kept into vagina and patient was advised to remove it after 2 hours.
4. Abdominal hot fomentation should be given which is followed by light diet.
5. Avoid the intercourse for 3-5 days post the procedure.

Mode of action of UttarbastiLocal effect^x

Effect of *uttar basti* highly depends on factors like methods, instrument and drug used etc. If the medicine is administered in cervical canal, it may act more on the cervical factors. For the factors like cervical stenosis, *katu ushna taila* like *kshara taila* based medication can be more useful, while for increasing secretion of mucus from cervical glands, a nutritive and *madhur-shita ghrita* based medicine will be more effective.

In the same way, the drug selection for ovulatory and tubal factor will be totally different from each other. On ovary the effect of drug will be after absorption and then by promoting the hypothalamic – pituitary–ovarian axis. While in tubal block *uttar basti* acts locally. In ovulation, a drug with *snehana* property can be good while for the tubal block a drug with *lekhana karma* will be better.

Uttar basti may also stimulate certain receptors in the endometrium leading to correction of all the physiological processes of reproductive system. Intravaginal *uttar basti* may also facilitate the absorption of drug as posterior fornix has a very rich blood supply and it may also act as reservoir of drug.

Formulations used in various factors of female infertility

1. **Ovulatory factor** (Anovulation)- *Prajasthapana gana siddha ghrta*, ^{xi}*Shamimashvatta ghrta*, ^{xii}*Go ghrta*, ^{xiii}*Shatavari taila*, ^{xiv}*Shatapushpa taila*, ^{xv}*Mahanarayana taila* ^{xvi}
2. **Tubal factor** (Tubal blockage)- *Kumari taila*, ^{xvii}*Yavakshara taila*, ^{xviii}*Tila taila*, ^{xix}*Apamarga kshara taila* ^{xx}
3. **Endometrial factor** (Endometrial thickness & receptivity)- *Brihat shatavari ghrta*, ^{xxi}*Phalakalyana ghrta* ^{xxii}
4. **Cervical factor** (Cervical mucus receptivity)- *Shatavari ghrta*, ^{xxiii}*goghrta*

1. Ovulatory factor

Ovum is one among the four essential factors of conception and therefore the process of ovulation is very important for the fertilization to take place. Differentiation, division and expulsion are the functions of *vata*. Therefore, *vata* is responsible for the formation and rupture of follicles resulting in ovulation.

Mode of action: *Uttarabasti* given in intrauterine route in the *ghrita* and *taila* medium such as *prajasthapana gana siddha ghrta*, *shamim ashvatta ghrta*, *go ghrta*, *shatavari taila*, *shatapushpa taila* and *Mahanarayanam taila* activates the normal function of *vata* and stimulates the ovarian hormones, ultimately achieving ovulation. Ovaries contain receptors which receive hormones secreted by hypothalamus and pituitary gland. *Uttarabasti* stimulates these receptors, so that proper maturation of follicles and ovulation occurs in each cycle. The *teekshna* and *ushna* property of various drugs and *tila taila* as a base has *kapha vatahara* property. These may remove Avarana kapha and might have restored the normal function of *vata* and follicular development. After getting absorbed in to systemic circulation when administered in the form of UB and thus would have induced hormonal influence over the ovary for the development of the follicular size.

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.

2. Tubal factor

Fallopian tubes play major role in the transport of gametes and embryo. Any abnormality in the form of adhesions or obstructions hampers the patency leading to infertility.

Mode of action: Correlating fallopian tubes with the *artavavaha* (*artava-bija-vaha srotas*), its blockage is compared with the *sanga srotodushti* of this *srotas*. *Vata* is the prime *dosha* involved in tubal blockage as *vata* is responsible for every movement. Thus, administering intrauterine *uttarabasti* with drugs like *kumari taila*, *yavakshara taila*, *tila taila* and *apamarga kshara taila* having scraping, penetrating, uterine cleansing, wound healing, *kapha-vata* alleviating properties, does *vata* alleviation, act locally on tubes and removes the blockage of tubal lumen by directly flushing obstruction. It also does the lysis of adhesions and restores the normal function of tubal cilia by its rejuvenating and

soothing effect. *Uttarabasti* cause local uterine contractions which stimulate the endometrium and ovarian receptors which stimulate the receptors and HPO axis regulating the normal menstrual cycle with ovulation.

3. Endometrial factor

Endometrium acts as bed for fertilized ovum where it gets embedded for further development. Unresponsive endometrium may cause implantation failure or abortion in early stages.

Mode of action: *Uttarabasti* with drugs like *brihat shatavari ghrita* and *phalakalyana ghrita*, possessing oleating, nourishing and phytoestrogen properties gets easily absorbed through the mucous membrane, glands and vessels. They proliferate and nourish the endometrium and rejuvenate the local tissues, potentiating the endometrial receptors which may finally improve the implantation rates by promoting fertilization & nidation of embryo.

4. Cervical factor

The physical, chemical and cellular components of the cervical secretion are essential for the natural fertilization process. Deviation from the normality of the mucous secretion creates hostile environment for the entry of sperm leading to infertility. *Shatavari ghrita* was effective in improving the cervical mucus, cervical mucus viscosity, ferning pattern, sperm density, sperm motility whereas *goghrita* showed better result in cellularity and spinbarkeit test.

Mode of action: Owing to its properties such as *tridosha* alleviating and subtleness of *shatavari ghrita* and *goghrita*, they are directly absorbed by the cervical epithelium and act locally on tissues. It is passively diffused across the membranes, nourishes and regenerates the epithelial cells and thereby normalizes the cervical secretion and reduces the sperm hostile cervical mucus activity.

Systemic effect of *Uttar Basti* after absorption^{xxiv} It seems that Ayurveda had a clear distinguishing approach between oral and parenteral route of drug administration from the very beginning. *Uttar Basti* may act by stimulating some neuro-endocrine pathways after getting absorbed. Systemic effect of *Uttar Basti* also be understood with the help of systemic biology concept. Systemic biology is the latest concept emerging and getting accepted in modern science. This concept believes in the holistic approach and believes that all the bodily systems and organs are interconnected at molecular level. And any change in any organ molecular level will certainly change the other. This concept is actually the first step of modern science toward the concept of *Mahabhuta* and *tridosha*. The effect of *Uttar Basti* drugs, have on the physiology of reproductive system, it will definitely involve the physiological functions and corrections of other organs.

REFERENCES:

1. D.C Dutta (author). Hiralal Konar (editor). Text Book of Gynaecology, Chapter 16, 5th edition reprint Calcutta, New Central Book Agency (P) Ltd; Reprint 2009. p. 220, 222.
2. Yadavji Trikamji Acharya (editor). Charaka Samhita of Charaka, Siddhi Sthana, Chapter 1, Verse no. 34. Varanasi, Chowkambha Krishnadas Academy; 2010. p. 683.
3. Acharya Mukundilal Dwivedi. Ayurvediya Panchakarma Chikitsa, Delhi: Chaukhamba Sanskrit Pratishthan, Reprint 2017, P. 9

4. Kaviraj Ambikadatta Shastri. Sushruta Samhita, Varanasi : Chaukhamba Sanskrit Sansthan; Reprint, Chikitsa Sthan 2018;38(125):126-207
5. Kaviraj Ambikadatta Shastri. Sushruta Samhita, Varanasi : Chaukhamba Sanskrit Sansthan; Reprint, Chikitsa Sthan 2018;37(107):205
6. Dr. Brahmanand Tripathi, Ashtanghrudaya, Delhi: Chaukhamba Sanskrit Pratishatan; Sutrasthan, Chapter no 19(72):240
7. Mukundalal Dwivedi. Ayurvediya Panchakarma Chikitsa, Delhi: Chaukhamba Sanskrit Pratishatan; Reprint, chapter no 2017;10:915
8. Dr. Brahmanand Tripathi. Ashtanghrudaya, Delhi: Chaukhamba Sanskrit Pratishatan; Sutrasthan, Chapter no 9(70):240-241
9. Kaviraj Ambikadatta Shastri. Sushruta Samhita, Varanasi : Chaukhamba Sanskrit Sansthan; Reprint, Chikitsa Sthan, chapter no 2018;37(108):205
10. Vd. Sarvesh Kumar Singh & Vd. Kshipra Rajoria, A Textbook of Panchakarma, Varanasi, Chaukhamba Prakashan, chapter no 8:518-519
11. Anup Jain. A textbook of panchakarma, New Delhi: Jaypee brother medical publishers: Reprint, chapter no 2019;6:403-404
12. Yadavji Trikamji Acharya (editor), Charaka Samhita of Charaka, Sutra Sthana Chapter 4, Verse 49, Varanasi, Chaukhambha Orientalia; Reprint 2011. p.34
13. Pandit Ramasaroop Sharma Gaud (editor). Atharvaveda, Volume 3, 6th Kaanda, 6/2/11/1, Varanasi; Chaukhambha Vidya Bhaawan; 2007. p.229-230
14. Late Dr.G.S Pandey, (editor). Bhavprakash Nighantu of Shri Bhavmishra, Ghrita Varga 1-6 Varanasi, Chaukhambha Bharati Academy; 2010. p. 775.
15. P V Tewari (editor), Kashyapa Samhita of Vriddhajivaka, Kalpa Sthana, Chapter 5, Verse 7-8, Varanasi, Chaukhambha Vishwabharati; Reprint 2008. p. 348
16. P V Tewari (editor), Kashyapa Samhita of Vriddhajivaka, Kalpa Sthana Chapter 5, Verse 5-6, Varanasi, Chaukhambha Vishwabharati; Reprint 2008. p. 348.
17. Dr Chandra Bhushan Jha (editor) Yoga Tarangini of Trimalla Bhatta Vaidhyaraj, Chapter 40, Verse 61- 83, Varansi, Chaukhambha Vidhya Bhavana; Reprint 2003. p. 185-186.
18. Pandit Sri Brahma Shankara Mishra (editor), Bhavaprakasha of Bhavamisra, Volume 2, Chapter 62, Verse 42-48, Varanasi, Chaukhamba Sanskrit Bhavan; 2013. p. 612-613
19. Prof K R Shrikantha Murthy (translator) Bhavapraksha of Bhavamishra, Volume 1, Chapter 6 (II), Verse 252, Varanasi, Chaukhambha Krishnadas Academy; Reprint 2004. p. 202
20. Yadavji trikamji Acharya (editor), Susruta Samhita of Susrutha, Chapter 45, Verse 112, Varanasi, Chaukhambha Surabharathi Prakashan; 2008. p. 205.
21. Priya Vrat Sharma (editor), Chakradatta, Chapter 57, Verse 25, Delhi, Chaukhambha Orientalia; 2007. p. 471
22. Yadavji Trikamji Acharya (editor), Charaka Samhita of Charaka, Chikitsa Sthana, Chapter 30, Verse 64- 68, Varanasi, Chaukhambha Orientalia; Reprint 2011. p. 637
23. Prof Siddhinandan Mishra, (editor), Bhaishajya Ratnavali of Kaviraj Govind Das Sen, Chapter 67, Verse 78-84 Varanasi, Chaukhambha Surabharti Prakashan; Reprint 2009. p. 1048.
24. P V Tewari (editor), Kashyapa Samhita of Vriddhajivaka, Kalpa Sthana Chapter 5, Verse 7-8, Varanasi, Chaukhambha Vishwabharati; Reprint 2008. p. 348.