INTRODUCTION
Sushruta, the ancient surgeon has mentioned four important factors responsible for embryo formation i.e. *rutu* (fertile period), *kshetra* (healthy reproductive organs), *ambu* (proper nutrient fluid), *beaja* (ovum/sperm) (2). Defects in any one factor cause infertility. The implantation defect come under the reproductive parts factor i.e. healthy reproductive uterus and other organs. This therapy might be acting through endometrium of uterus and on the inner lining of fallopian tubes. Ayurveda describes two different type of treatment therapies for all diseases- one is Symptomatic treatments (*Shamana chikitsa*) and Detoxification treatments (*Shodhana chikitsa*).
Abnormality of *vayu* and *shadbhavas* can cause infertility.
*Yoni dosha* refers to following abnormalities

ABSTRACT
Ancient Ayurveda has described various detoxification therapies for balancing the health status of human being. Systemic detoxification can be done by five different therapies for example emesis, purgation, Enema therapies of Ayurveda etc. These therapies are conducted on purely with the concept of Ayurveda for prevention of variety of diseases as well as for curing the disorders. *Uttarbasti* is a therapy which is used for detoxification of reproductive tract specially uterus and fallopian tubes (1). Detoxification helps in improving the function of various body systems and rejuvenates the organs. The reproductive tract of females has different milestones as the age advances. Menarche, puberty, fertilization, embryo formation, labour, menopause etc are the normal events. Sometimes patient has to suffer from various intrauterine structural and physiological problems like polyp or fibroid formation, miscarriages, menorrhagia, metrorrhagia or incomplete abortions etc. These things are intervened by surgical procedures.
The formation of decidua and shedding of endometrium seems to be the physiological process. The patients have to suffer from infertility though the couple has all the normal reports. *Uttarbasti* plays a role in such cases where suspicion of implantation defects is considered.
The localized detox therapy of intrauterine cavity is done with this procedure to enhance the function and rejuvenate the organ.
The description given in ancient Ayurvedic texts is changed for practical purpose and SOP is prepared.
Keywords: *uttarbasti*, infertility, detoxification
1. **Anatomical defects** of vagina, cervix, uterus, fallopian which hinders fertilization

2. **Physiological disturbances** of menstrual cycle or quality of ovum (aartava dushti) refer to abnormalities of menstrual cycle (Irregular menses, excessive bleeding during menses, decreased bleeding during menses etc.) and ovulation or oocytes formation. **Uttarbasti** therapy can be included in detoxification therapy. The details of indication, doses, contraindication etc have mentioned in different Ayurvedic texts. The different opinions regarding uttarbasti have been collected in this article and practical SOP is tried to explain to maintain the uniformity of the research work. This therapy is to be done in operation theatre area and with all aseptic precautions.

**Aim:** To find out the practical SOP for **uttarbasti** therapy with the help of Ancient ayurveda text references

**Objectives**
- To study in detail Ayurvedic and modern literature regarding **Uttarbasti**.
- To find the effect of the drug on endometrium (**Garbhashayya**)
- To explain all practical issues or problem occurred during procedures and probable solution for the same.

**III. Materials and Methods**

**Materials**

**Literature** study- available Ayurveda texts and modern available texts, magazines, journals, Research Papers and internet were referred for the complete review of the literature.

**Materials & Methods**- Attending OPD Obstetrics and Gynaecology, Detailed history of patient was taken covering high risk behaviors. Modes of transmission presenting complaint and physical examination. After a written informed consent, approval of institutional ethical committee was taken

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 & **Uttarbasti** are administered. **Uttarbasti** is a mode of administration of drug. **Uttarbasti** has been well highlighted in the Texts for the management of most of the gynecological disorders.

**Ayurveda:** Its route of administration in females as well as in males. The medicines are given through urethral or genital route.

**Modern/ Practical view:**

Similar procedures:

1. Bladder wash by antiseptic solutions through urethral route and
2. administration of water soluble dye for diagnostic purpose in Hysterosalpingography through genital or transcervical route

**Indications:** (3)

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

1. Urethral stricture, retention of urine, pain in urinary bladder or groin region and discharge of urine drop by drop, severe vaginal pain, Infertility
2. **Yoni vyapada** (vaginal or uterine disorders/ Gynecological disorders)

3. Menometrorrhagia (**raktapradara** or irregular bleeding)
4. dysmenorrhoea

**Dose and time of Uttarbasti:**

**Time:**

1. For genital route- **Uttarbasti** can be given in **Ritukala** i.e. period after men-
strual cycle ceases and before ovulation occurs specially on 7\textsuperscript{th} / 8\textsuperscript{th} / 9\textsuperscript{th} day of cycle if patient’s menstrual cycle is regular. (4)

2. If patient has more than 5 days bleeding during menstrual cycle, then she should be called next after bleeding ceases.

3. For Urethral route- Any time except during menstrual cycle

**Dose:**

1. For urinary route:
The dose mentioned for urinary route is “Angulimulsamit prasrut” i.e. palm of hand stretched out and hollowed as if to hold liquid or handful filled up to the bases of fingers. It can be reduced to half if the strength of the disease or patient is medium or less.

In girls of less than twelve years age, woman of active reproductive age group (delivered or undelivered) the dose of uttarbasti medicine will be one handful for cleansing of urinary bladder. (5)

2. For Vaginal route:
Ayurveda physician, Vaghbhata) has mentioned a dose of medicines as one pala (20 grams/ 20 ml). (6)
The medicines used in this process are in liquid form. Medicated oils or medicated ghee or decoction are used in Uttarbasti process. Practically this process is also similar to the process of intrauterine insemination (IUI)
The dose of liquids used here is 5-10 ml per session. The dose can be increased further but patients may complaint of abdominal pain which need to be treated.

The **Uttarbasti** process is followed for three days consecutively in each cycle

**Standard Operating Procedure:**

Equipment:

1. Sponge holder
2. Sim’s speculum or Cusco’s speculum
3. Straight artery
4. Metal canula or IUI canula
5. Syringe 10ml
6. Syringe 2ml
7. Vulsellum
8. Uterine sound

**Position of patient:**
The physician should administer it to the women lying in supine position with knee flexed.

Procedure described in Ayurveda Texts:

- The woman should be in positioned supine posture flexed thighs and elevated knees. (Lithotomy position- uttan shayana) (7)
- The nozzle should be inserted in urinary passage slowly with steady hands following direction of the passage.

- Uttarbasti in vaginal route should be done cautiously. Sim’s speculum and anterior vaginal wall retractor can be used to explore vagina. The liquid is taken in a 10ml syringe. For vaginal and cervical disorders the liquid can be inserted only in vagina as per the dose mentioned. The dose for vaginal disorders can be increased to 20ml, 40ml etc.

- Uttarbasti in intrauterine route need more skilled person. Per vaginal examination is done to assess the size and shape of uterus. (Anteverted/ retroverted, normal/ bulky). With the help of sim’s speculum and anterior vaginal wall retractor, vagina is explored. The upper lip of the cervix is caught with vulsellum. A fluid filled 10ml syringe with metal cannula attached to its tip are taken. The air of the metal cannula is removed by pushing the piston so as the liquid medicine will come at the tip of the cannula.
The metal cannula can be screwed up to the internal cervix level or the IUI cannula can be used and internal os is crossed. If the IUI cannula is used, the air removal is done similarly as in the case of metal cannula.

- Procedure should be continued for three nights (day and night) with gradual increase in oleaginous substance.
- After giving rest for three days, the procedure should be repeated for another three days. (8)

- The proper boiled liquid is taken in 10ml syringe and air bubble is removed. The syringe is attached to the IUI cannula (5ML) or metal canula (10ML quantity) and again the air in the canula is removed. The syringe and canula kept horizontally on trolley.
- Surgeon should clean the vagina externally and internally with normal saline only. The cause behind using normal saline is that other antiseptic solution should not alter the action of drug used for uttarbasti.
- Surgeon has to introduce Cusco’s speculum if there is no assistant for this procedure. Otherwise sim’s speculum can be used if assistant is available.
- Anterior lip of cervix is caught by Vulsellum and assistant is asked to hold the sim’s speculum with little downward pressure.
- The syringe and canula taken by surgeon and screwed a little inside the cervix and slowly the drug is pushed inside the uterus so as to reach to fallopian tubes.

Complications of procedure:
1. Patient may go in vasovagal shock. Some surgeons advice to give Inj. Atropin or Glycopyrolate 15-30 minutes before actual procedure in case of emergency.
2. Patient complains of abdominal pain after uttarbasti. The patient can advised to take antispasmodic drugs 30 minutes before procedure.
3. Antibiotics are generally not prescribed unless patient has consistent abdominal pain or fever after procedure. Then introduce the nozzle into the vagina by pressing and squeezing the pouch. The process is repeated for 3–4 times after the previous medicine come out if uttarbasti is given in vaginal route.

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.

Observations:
1. No allergic reactions observed in trials taken up till now.
2. Pain in abdomen after uttarbasti may be a common complaint which reduces after half to one hour
3. Patient can be relieved from hospital without any antibiotics or antispasmodic drugs
4. Need more study for further evaluation of exact action of medicines on endometrium of uterus with the help Pharmacology and cell line expert is expected.

Conclusion: SOP must be validated by conducting large sample clinical trials in multicentric format to assess the efficacy and feasibility.

SOP for Uttarbasti like procedures will reduce the incidences of sepsis and other manifestations.

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Dr. Deshmukh Sushilkumar
Professor, Prasuti- Striroga Department, Ashwini Ayurveda College, Tumkur, Karnataka
Email: sushildeshmukh@hotmail.com