



A CASE STUDY ON AYURVEDIC MANAGEMENT OF INFERTILITY DUE TO TUBAL BLOCKAGE

Dr. Sonali Jugran

Assistant Professor, Department of Prasuti tantra and Stree rog, Himalaya Ayurvedic Medical college and Hospital, Dehradun.

ABSTRACT

A female aged 33 years presented to the OPD in the month of August with complaint of unable to conceive past 3 years. She was having a female child of 6 years and is trying for second issue. Her HSG report shows bilateral tubal blockage. She was registered for three sittings of *Uttar basti* with *Bala tail* and *Kshara tail*. She conceived naturally on December 2024. This paper discusses the case study of the patient and treatment planned.

KEYWORDS: *Uttar basti*, HSG, *Kshara tail*, etc..

INTRODUCTION

Infertility is defined as a failure to conceive within one or more years of regular unprotected coitus. **Primary infertility** denotes those patients who have never conceived. **Secondary infertility** indicates previous pregnancy but failure to conceive subsequently.¹

Infertility is a sign of underlying pathology. Also, it a major cause of stress for the couple. Present lifestyle is also a significant cause of infertility. As its incidence is rising, need for its management is also becoming important.

Description of infertility in Ayurveda literature is scattered. Infertility has been stated as *Bandhyatwa* in Ayurveda.

Some of the causes of *Bandhyatwa* mentioned are-

A female of very young age, old, suffering from chronic illness, hunger or grief is not able to conceive²

Acharya Sushrut has described *Bandhya* as one of *Yonivyapad*³ and also mentioned it in the results of *Artavavaha srotas viddh*⁴

Disorders of *Artava* such as *Ashtartava dushti* also leads to *Bandhyatva*⁵

Intercourse with a girl before menarche causes *Garbhasankoch* leading to *Bandhyatwa* (not able to conceive or conceives by difficulty). If during *Garbhavastha kaal*, cells forming uterus are affected, the female child becomes *Bandhya*⁶

In 20 types of *Yonivyapada*, it has been stated that these *Yonivyapada* are responsible of *Bandhyatwa* as the *Yoni marg* is not able to retain the sperms and hence not able to conceive⁷

Some of the *Yonivyapad* which can be related with the condition of infertility⁸

Asrija yonivyapad – bleeding during early pregnancy can lead to pregnancy loss

Vamini yonivyapad – in six or seven days, when *Shukra* mixed with *Artava* is expelled out.

Putraghani yonivyapad- repeated pregnancy loss

Types of *Bandhya* has been described in *Harita Samhita*⁹

- *Bala* – it may be referred to the time before puberty or delayed puberty.
- *Garbhakosh bhang*- malformations or injury to the uterus.
- *Dhatukshya*- General emaciation and cachexia or amenorrhoea and anovulation leading to underdevelopment
- *Kakavandhya*- it indicates inability to conceive after one child.
- *Anapatya* – primary infertility where the female never conceives
- *Garbhasravi*- condition of repeated abortions
- *Mritavasta* – condition of repeated still births or intra uterine deaths
- *Balakshya* – infertility due to *dhatu kshaya*. It can be related to atrophic changes causing secondary infertility.

Conception depends on the fertility potential of both the male and female partner. The male is directly responsible in about 30–40 percent, the female in about 40–55 percent and both are responsible in about 10 percent cases. The remaining 10 percent, is unexplained¹⁰

CAUSES OF FEMALE INFERTILITY ¹¹

Factors responsible for female infertility are:

Tubal and peritoneal factors (25–35%),
Ovulatory factor (30–40%) and
Endometriosis (1–10%).

Tubal and peritoneal factors are responsible for about 30–40 percent cases of female infertility.

The obstruction of the tubes may be due to

Pelvic infections causing

1. Peritubal adhesions (2) Endosalpingeal damage
 - (b) Previous tubal surgery or sterilization
 - (c) Salpingitis isthmica nodosa (d) Tubal endometriosis and others (e) Polyps or mucous debris within the tubal lumen or tubal spasm.

CAUSATIVE ORGANISMS¹²

The bacterial pathogens involved in upper genital tract infections are principally derived from the normal flora of the vagina and endocervix. Exogenous sources are sexually transmitted or following induced or unsafe abortion or during delivery in unhygienic surroundings.

Organisms responsible for infection

1. Pyogenic (50%): This is the commonest type – the organisms responsible are:

Aerobes

The gram-positive organisms are *staphylococcus*.

The gram-negatives are *E. coli*, *pseudomonas*, *klebsiella*, *N. gonorrhoeae*, etc.

Anaerobes

The gram-positives are anaerobic *streptococcus*. *Clostridium welchii*, *Cl. tetani*, etc. **The gram-negatives** are mainly bacteroides group of which *Bacteroides fragilis* is the commonest.

2. Sexually transmitted disease (STD): The organisms are *N. gonorrhoeae*, *Chlamydia trachomatis*, *Treponema pallidum*, *Herpes simplex virus type II*, *Human papilloma virus*, *Gardnerella vaginalis* (*Haemophilus vaginalis*), *Haemophilus ducreyi*, *Donovan bodies*, *HIV I or II*, etc.

3. Parasitic: *Trichomonas vaginalis*

4. Fungal: *Candida albicans*

5. Viral: Herpes simplex virus type II, Human papilloma virus, HIV, Condylomata acuminata, etc.

6. Tubercular: *Mycobacterium tuberculosis*.

The tests for assessment of patency and functional integrity of the tubes are¹³

1. Insufflation test (Rubin's test)

Principle: The underlying principle lies with the fact that the cervical canal is in continuity with the peritoneal cavity through the tubes. As such, entry of air or CO₂ into the peritoneal cavity when pushed transcervically under pressure, gives evidence of tubal patency.

Timing It should be done in the postmenstrual phase at least 2 days after stoppage of menstrual bleeding.

Limitation: It should not be done in the presence of pelvic infection.

Observations: The patency of the tube is confirmed by: (1) fall in the pressure when raised beyond 120 mm Hg, (2) hissing sound heard on auscultation on either iliac fossa and (3) shoulder pain experienced by the patient (irritation of the diaphragm by the air).

2. Hysterosalpingography (HSG)

HSG is an operative procedure used to assess the interior anatomy of the uterus and tube including tubal patency. It is a radiographic study and a contrast media is used.

Principle: The principle is the same like that of insufflation test. Instead of air or CO₂, dye is instilled transcervically.

Timings: HSG is done between D6 and D10 of the cycle. Antibiotic prophylaxis should be given.

Doxycycline 100 mg PO twice daily is given, beginning the day before HSG and continuing for 5 days.

Advantages: It has got distinct advantages over insufflation test. It can precisely detect the side and site of block in the tube. It can reveal any abnormality in the uterus (congenital or acquired like synechiae, fibroid). As such, insufflation of the tubes has largely been replaced by HSG.

Indications

- Assessment of tubal patency in the investigation of infertility or following tuboplasty operation
- Detection of uterine malformations (unicornuate, bicornuate, septate uterus)
- Diagnosis of cervical incompetence
- Detection of translocated IUD whether lying inside or outside the uterine cavity
- Diagnosis of uterine synechiae
- Incidental diagnosis of submucous fibroid or uterine polyp or hydrosalpinx or nodular tube is an additional gain.
- To confirm the diagnosis of secondary abdominal pregnancy.

Steps

The operation is done in the radiology department and without anaesthesia.

- Patient is asked to empty her bladder.
- She is placed in dorsal position with the buttocks on the edge.
- Internal examination is done.
- Posterior vaginal speculum is introduced; the anterior lip of the cervix is held by Allis forceps and uterine sound is passed.
- Hysterosalpingographic cannula is fitted with a syringe containing radio-opaque dye—either water soluble contrast medium, meglumine diatrizoate (Renografin-60) or a low viscosity oil-based dye, ethiodized oil (Ethidol). The dye is introduced slowly.
- About 5–10 mL of the solution is introduced. The passage of the dye into the interior may be observed by using a X-ray image intensifier and a video display unit.
- The speculum and the Allis forceps are removed but not

the cannula.

- Two radiographic views are generally taken. The first one to show the filling of uterine cavity and the other at the completion of the procedure (after 10–15 minutes) showing tubal findings. The tubal patency is evidenced by peritoneal spillage.

Complications

Apart from the inherent complications of the uterine sound (uterine perforation), HSG has got the following complications even with the use of watery solution.

- Peritoneal irritation and pelvic pain.
- Vasovagal attack.
- Intravasation of dye within the venous or lymphatic channels (common in tubercular endometritis)
- Flaring up of pelvic infection (1–3%).

Contraindications to HSG: (i) Pelvic infection, (ii) Women known to have hydrosalpinges (iii) Presence of adnexal mass (PID), (iv) Pelvic tenderness on bimanual examination.

3. Laparoscopy

Laparoscopy is the gold standard (definitive method) for evaluation of tubal factors of infertility.

It is done after male factor and ovulatory functions have been found normal or corrected.

Indications

- Age > 35 years
- Abnormal HSG
- Failure to conceive after reasonable period (6 months) with normal HSG
- Women with comorbid pelvic pathology (PID, endometriosis).
- Unexplained infertility

4. Sonohysterosalpingography

Principle: Normal saline is pushed within the uterine cavity with a pediatric Foley catheter. The catheter balloon is inflated at the level of the cervix to prevent fluid leak. Ultrasonography of the uterus and fallopian tubes are done. Ultrasound can follow the fluid through the tubes up to the peritoneal cavity and in the pouch of Douglas.

Advantages: It is a non invasive procedure. It can detect uterine malformations, synechiae, or polyps. Tubal pathology could be detected as that of HSG. There is no radiation exposure.

5. Falloposcopy

The entire length of tubal lumen is studied with the help of a fine and flexible fiberoptic device. It is performed through the uterine cavity, using a hysteroscope. It helps direct visualization of tubal ostia, mucosal pattern, intratubal polyps, or debris.

UTTAR BASTI¹⁴

The *Basti* which is given after *Niruha Basti* through the *Uttara marga*, is called *Uttara basti*.

Since it is having *Shreshtha guna*, it is called *Uttar basti*

The *Basti* which is given through *Uttara marg* – urinary or vaginal tract.

Timing of *Uttar basti* – after *Shodhan* and two or three *Asthapana Basti*, *Uttarbasti* is given during *Ritukaal*, since the passage and orifices are open this time and medicine is completely absorbed. Vata dosha is pacified and conception becomes easy. *Uttarbasti* with medicated oils is beneficial in cases of prolapse, extreme pelvic pain, dysuria, etc.¹⁵

Procedure of *Uttar basti* – After supine position, knees flexed, *basti netra* is inserted in the vaginal passage or urine passage of female. *Sneha* oil is inserted two, three or four times in 24 hours span. *Uttar basti* should be given for 3 days by increasing the dose of *Sneha*. Then after 3 days gap, it is again given for 3 days¹⁶

PROBABLE MODE OF ACTION¹⁷

Dr. Nirmala Joshi has described mode of action of *Uttar basti*.

The right time for *Uttar basti* is *Ritu kaal*, which is compared with the proliferative phase of menstruation. In this phase the blood vessel stumps are broken and new arterioles are grown from the old stumps, glands are also macerated and broken, so the drug administered is easily absorbed through them.

The oil based solutions are absorbed slowly.

The lipophilic action of *Sneha* facilitates transport to the target organs and final delivery inside the cells.

CASE DISCUSSION

A married female aged 33 years visited the OPD with the complain of not able to conceive past 2-3 years. She has a female child of 6 years with vaginal delivery. Her menses are regular with normal bleeding. She was trying to conceive past 2-3 years. She previously consulted a private clinic for treatment but got no results. Her HSG report (dated 01/05/2024) shows bilateral tubal occlusion with no peritoneal spillage. She was admitted for 3 sittings of *Uttar basti* with *Kshar tail* and *Bala tail*.

Date of first visit- 29/07/2024

Age- 33 years

Married life- 8 years

Menstrual history:

LMP- 24/07/2024

Duration- 4-5 days

Interval- 26-28 days

Flow- 3-4 pads per day used, fully soaked

Pain- mild

Obstetric history:

P1A2

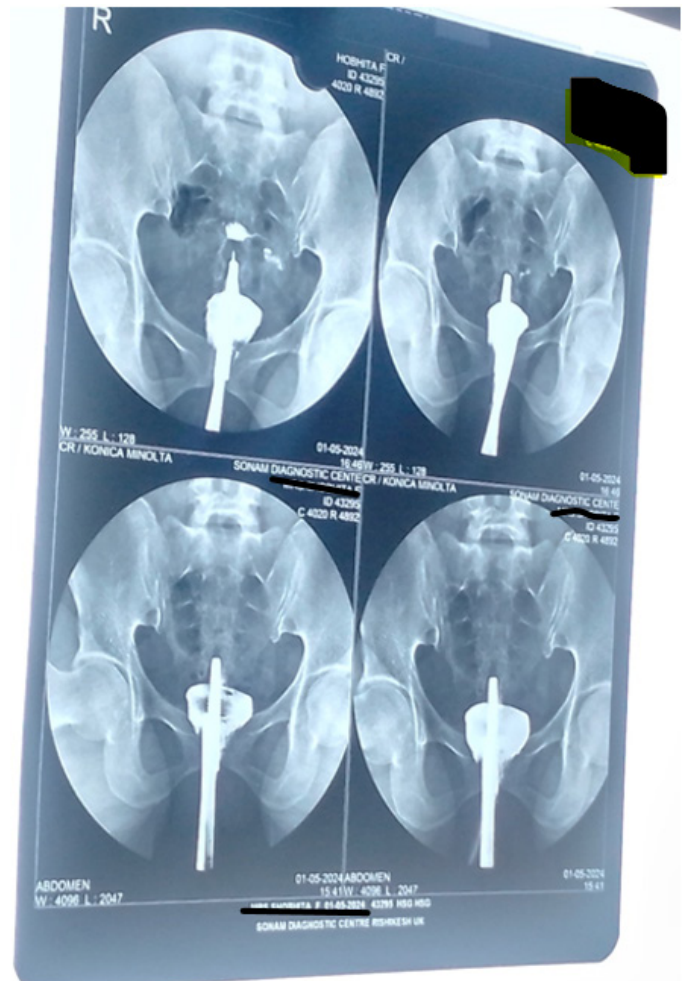
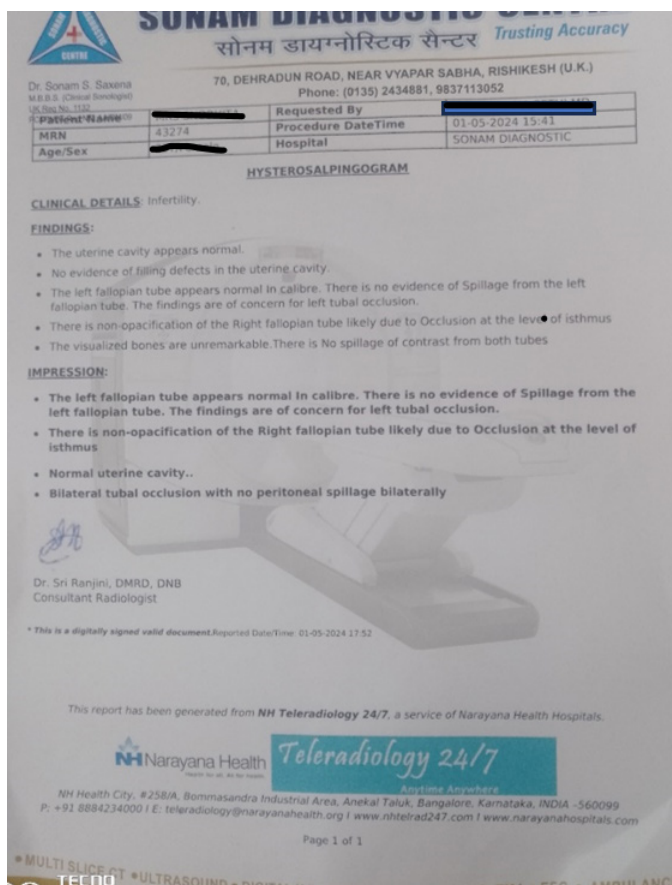
P1- 6 years female child FTND

A1- 1.5 months gestation spontaneous abortion f/b MTP pills (3 years back)

A2- 1.5 months gestation spontaneous abortion f/b MTP pills (2 years back)

Personal history:

Appetite- normal
 Bowel- regular
 Micturition- normal
 Sleep- sound
 Water intake- 1-2 litres per day
 General examination:
 BP – 120/80 mm Hg
 Pulse- 76/ min
 Height- 5.2
 Weight- 68 kg
 Pallor- not present
 Icterus- not present
 Medical history – no history of diabetes, hypertension or thyroid dysfunction. Patient has consulted a nursing home for conception and took ovulation induction drugs for two cycles in February 2024.
 Surgical history- patient has undergone right knee meniscus repair surgery in June 2024 in a private hospital.
 Blood investigations (15/06/2024):
 HBsAg- non reactive
 HCV- non reactive
 HIV I & II- non reactive
 HSG (01/05/2024):
 Bilateral tubal occlusion with no peritoneal spillage. Below reports show HSG findings.



TREATMENT PLANNED

First Visit

29/07/2024

1. *Chandraprabha vati* 1 tablet 2 times
2. *Hingwastak churna* 3 gm 2 times
3. *Punarnavadi kwath* 40 ml two times
4. *Snehan* with *Bala* tail followed by *Swedan* for 20 minutes each
5. *Uttar basti* with *Bala tail* (2ml) and *Kshar tail* (1 ml)

Second sitting 18 September

Third sitting 17 October

UPT positive on 6 December

PROCEDURE OF UTTAR BASTI

Uttarbasti was given after cessation of menstrual cycle

Poorva karma

- Written consent from patient was taken
- *Abhyanga* and *Swedana* of lower abdomen, lumbar region and lower limbs with *Bala tail* for 20 minutes followed by hot water bag fomentation for next 20 minutes.
- The oil and instruments were autoclaved.
- *Yoniprakshalan* was done with 800ml of lukewarm *Panchwalkal kwath*.

Pradhan karma

- Patient was given dorsal lithotomy position.
- Vulva, vagina and perineal area was cleaned with antiseptic solution.
- Cusco speculum was inserted to visualise cervix.
- Uterine sound was inserted to know the position and length of uterine cavity.
- IUI cannula attached with 5 ml syringe filled with *Kshar tail* (1 ml) and *Bala tail* (2 ml) was inserted into the cavity through cervix.
- The oil was then gently inserted.
- Cusco speculum was removed.
- *Yoni pichu* of *Bala tail* was kept afterwards for 2-3 hours.

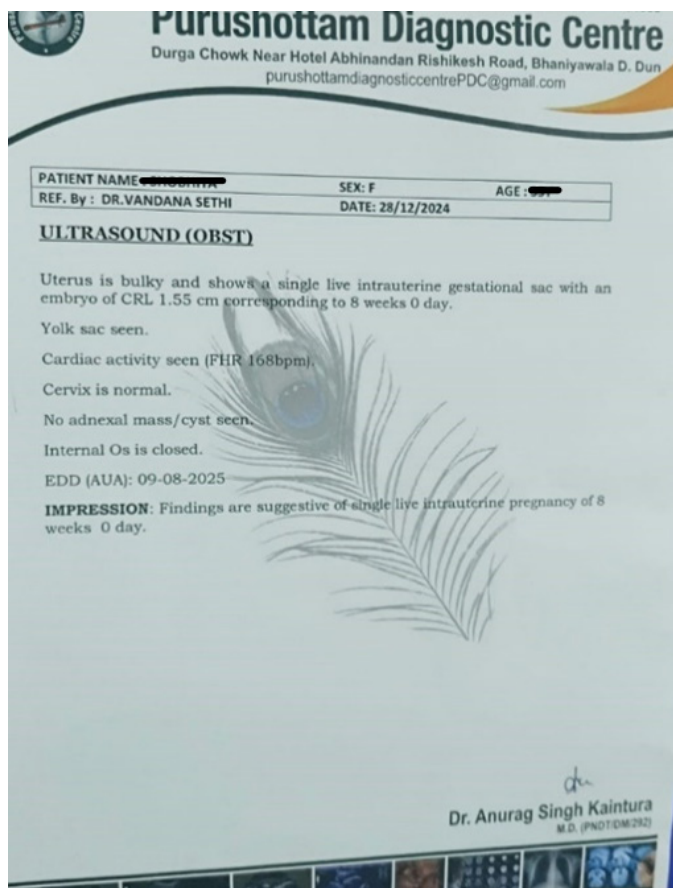
Pashchat karma

- Lower abdomen was fomented with hot water bag.
- Patient was given head- low position and kept under observation for 2 hours.
- Patient was advised to avoid heavy and spicy food and intercourse during treatment.

The procedure was repeated for next two days.

FOLLOW UP AND RESULT

After *Uttar basti* sittings, oral medicines were advised. The treatment continued for three consecutive months, follow up was done every 15 days. After 3 months, *Uttar basti* was stopped and oral medicines were continued for further 15 days. She reported overdue menses in month of December and UPT test was positive on 6 December. Ultrasound report of the patient after conception is attached below.

**DISCUSSION**

Ritu (time period), *Kshetra* (reproductive organs), *Ambu* (nutrition), *Bija* (healthy sperm and ovum) are the essential factors for conception¹⁸

Ritukaal denotes fertile period of the menstrual cycle which is the time around ovulation. *Ambu* is the nutrition derived from food which helps in fetal growth. *Beeja* indicates *Suddh shukra* and *Shonita* i.e. healthy sperm and ovum. *Kshetra* includes the reproductive organs of female where fertilization and development of foetus takes place. The texts not only emphasized on presence of *Kshetra* – *yoni* and *Garbhasaya*, but also on its healthy state. *Kshetra* can be related to uterus and fallopian tubes. Patency of fallopian tubes is an essential factor for conception along with healthy sperm & ovum and receptive endometrium.

In the description of *Artavaha srotas*, *Sushrut* has stated that *mool* of this *srotas* is *Garbhasaya* and *Artavavahini dhamnis* and *Viddh* to these *srotas* results in *Bandhyatva* alongwith *Artavanash* and *Maithun-asahisanutvam*¹⁹

Artavavaha srotas can be related to ovaries and fallopian tubes alongwith their blood supply. *Viddh* to these *Srotas* can be any damage or disintegration of the normal anatomy of the tubes leading to infertility. This can happen due to any infection causing tubal blockage.

Blockage in the fallopian tubes can be related with *Kshetra dushti*. *Artavavaha srotorodh* can occur due to *Vata* and *Kapha dushti*. *Ruksh*, and *Khara guna* of *Vata* alongwith *Guru*, and *Sthira guna* of *Kapha* can cause *Sang Srotodushti*²⁰

Bala tail and *Kshar tail* were used for *Uttar basti*. *Kshar tail* has *Ushana*, *Tikshana* and *Lekhan* properties, which helps in removing the adhesions and blockage. *Bala tail* provides nourishment to the uterine cells and promote growth of healthy cells.

Ingredients of *Bala tail-Kwath* of *Bala mool*, *Dashmool*, *Yava*, *Kol*, *Kulath*, *Dugdh*, *Kakolyaadi gana*, *Saindhav lavana*, etc are ingredients of *Bala tail*. In the above decoction, *Raal*, *Devdaru*, *Manjistha*, *Chandan*, *Kuth*, *Ela*, *Jatamansi*, *Tejpatra*, *Tagar*, *Sariva*, *Vach*, *Ashwagandha*, *Punarnava* powder is added and *Tailpaak* is done. This *Bala tail* is stored in *Swarna*, *Rajat* or *Mritika patra* and cures every type of *Vata vikaar*. Other uses are women who wants to conceive, *Ksheen shukra purush*, *Ksheen vayu*, *Bhagn*, *Shram*, *Akshepak*, *Hikka*, *Kaas*, *Adhimanth*, *Gulma*, *Swas*, etc..²¹

Ingredients of *Kshar tail* - *Baal mool kshar*, *Sajjikshar*, *Yavakshar*, *Panch lavana*, *Hing*, *Sahjan*, *Kuth*, *Saunf*, *Rasanjan*, *Pippalimool*, *Nagarmotha*, - *kalka* is prepared, then *Tail* and *Jal* is added and *Tail paak* is done. This *Tail* is useful in *Karnsrava*, *Karnaad*, *Karnshool*, *Baadhirya* and other ear and mouth diseases²²

Uttarbasti is an effective form of local therapy in which a drug is inserted into the uterine cavity and fallopian tube through

cervix. The drug acts readily and corrects the pathology. In this case *Uttar basti* with *Kshar* and *Bala tail* helps in removal of adhesions and promotes healthy cell growth. Also, *Bala tail* is helpful for removal of *Vata dosha* and *Kshar tail* primarily relieves *Kapha dosha*.

CONCLUSION

Uttar basti is effective for removal of fallopian tube blockage. This single case study shows its importance. Treatment for tubal blockage should aim at restoring the patency of tubal lumen and also restoration of tubal functions. *Uttar basti* works at both the levels. Also, no any complications were seen during the course of treatment.

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