

## Integrating Ayurveda in Infertility Management: A Case Study on Fimbrial Blockage

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### Abstract

*Infertility significantly impacts a woman's psychological and physical health, as well as that of her family. Fallopian tube blockage is one of the leading causes of female infertility, accounting for a substantial number of cases globally. Conventional medical approaches, including in vitro fertilization (IVF) and surgical procedures, often present barriers due to their high cost, invasive nature, and limited accessibility. Additionally, cultural, financial, and personal considerations can further restrict their adoption. Ayurveda, an ancient holistic medical system, offers alternative therapeutic options that are less invasive, cost-effective, and comprehensive in their approach. This case study focuses on a 27-year-old woman presenting with primary infertility attributed to right tubal fimbrial blockage, as confirmed through hysterosalpingography (HSG). The patient underwent a treatment protocol involving Yoga Basti using Dashmoola Taila and Dashmoola Kwatha, along with Uttarabasti utilizing Apamarga Kshara Taila. Following three cycles of these therapies, a subsequent HSG revealed restored tubal patency and normal peritoneal spillage, indicating the effectiveness of the Ayurvedic regimen in reestablishing reproductive functionality. This case highlights the potential of Ayurvedic interventions, particularly Uttarabasti and Basti therapies, in managing infertility associated with fallopian tube blockage. It emphasizes the role of traditional medicine as a viable complement to modern infertility treatments. Further research and clinical trials are essential to validate these findings and establish standardized Ayurvedic protocols for broader application in reproductive healthcare.*

**Keywords:** Uttarabasti, fallopian tube blockage, infertility, yoga basti, apamarga kshara taila, dashmoola taila, dashmoola kwatha

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Received Date: May 29, 2025

Accepted Date: August 08, 2025

Published Date: August 11, 2025

**Citation:** Swati Malsariya, K. Bharathi, B. Pushpalatha, Rahul Dandiyaa. Integrating Ayurveda in Infertility Management: A Case Study on Fimbrial Blockage. Research & Review: A Journal of Ayurvedic Science, Yoga & Naturopathy. 2025; 12(3): 12–19p.

### INTRODUCTION

Approximately 80%–85% of couples with female partners under 35 years of age conceive within the first year of unprotected sexual activity. This figure rises to 90% within 18 months and approximately 95% within 2 years. However, the remaining 5% of women often face challenges in conceiving without medical intervention. Infertility is typically defined as the inability to conceive after 2 years of unprotected intercourse, although some medical guidelines define this timeframe as 1 year [1].

Female infertility is often attributed to tubal and peritoneal factors, accounting for 25%–35% of cases [2]. Among these conditions, such as hydrosalpinx (fluid-filled fallopian tubes) and tubal blockages, are significant contributors, affecting 30%–40% of women in the infertile population [3].

The fallopian tubes play a critical role in natural conception, serving as a conduit between the uterus and the peritoneal cavity. They allow the passage of the egg, sperm, and eventually the fertilized embryo. Blockages in this pathway disrupt these essential processes, leading to infertility [4]. Tubal blockages can result from various causes, including pelvic inflammatory disease (PID), endometriosis, or surgical adhesions, all of which compromise the structural integrity and function of the tubes.

Addressing tubal and peritoneal infertility often requires targeted interventions. While surgical options, like tuboplasty or laparoscopic procedures, are common in modern medicine, alternative approaches, including Ayurveda, are gaining attention for their minimally invasive nature. Treatments, such as *Uttarabasti* (therapeutic intrauterine oil infusion), have been reported to improve tubal patency and enhance fertility outcomes in select cases [5].

In Ayurveda, the *Artavavaha Srotas* encompasses the entire female reproductive system, functioning as a morphological and physiological totality that extends from the hypothalamus to the uterus. This holistic view aligns the hormonal, vascular, and anatomical components of reproduction into a unified framework.

The *moolas* (root structures) of the *Artavavaha Srotas* are identified as the *Garbhashaya* (uterus) and the *Artavavaha Dhamanis* (vascular pathways carrying reproductive elements). Any injury or dysfunction in these structures can lead to significant reproductive disorders such as *Vandhyatva* (infertility), *Maithunasahishnuta* (dyspareunia), and *Anartava* (amenorrhea) [6].

The fallopian tubes are integral components of the *Artavavaha Srotas*, responsible for transporting *Bija Rupi Artava* (the ovum). A blockage in these pathways, referred to as *Artava Bija Vaha Srotas* in Ayurveda, is equated to infertility caused by fallopian tube obstruction. This condition is recognized as one of the most common and challenging causes of female infertility in both Ayurvedic and modern medical perspectives.

Blockages in the fallopian tubes can prevent the meeting of sperm and ovum, thereby disrupting natural conception. In Ayurvedic pathology, such blockages may result from imbalances in *Vata*, *Pitta*, or *Kapha doshas*, leading to structural anomalies or functional impairments in the reproductive system. Classical Ayurvedic texts recommend therapies, such as *Uttarabasti* (uterine oil infusion), dietary modifications, and herbal formulations, to address these conditions.

In cases of infertility caused by tubal blockage, advanced therapies, such as in vitro fertilization (IVF), are considered the gold standard. These procedures offer a reliable solution for bypassing fallopian tube dysfunction. However, they remain expensive, are often limited in accessibility in many countries, facing cultural or religious resistance in some communities [7].

Ayurveda, on the other hand, emphasizes the importance of *Sthanika Chikitsa* (localized or in situ therapy) in addressing gynaecological conditions. While systemic treatments are available for managing disorders of internal organs, in situ therapies are particularly suitable for reproductive tract issues. These localized treatments allow direct administration of medicines to the affected area, enhancing therapeutic efficacy.

*Uttarabasti* (intrauterine administration of medicated oils or decoctions) is a prime example of *Sthanika Chikitsa*. This minimally invasive technique has been highly valued in Ayurveda for its ability to treat a wide range of gynaecological disorders, including tubal blockage [8]. By delivering medicine directly to the reproductive tract, *Uttarabasti* helps remove blockages, restore normal function, and support fertility.

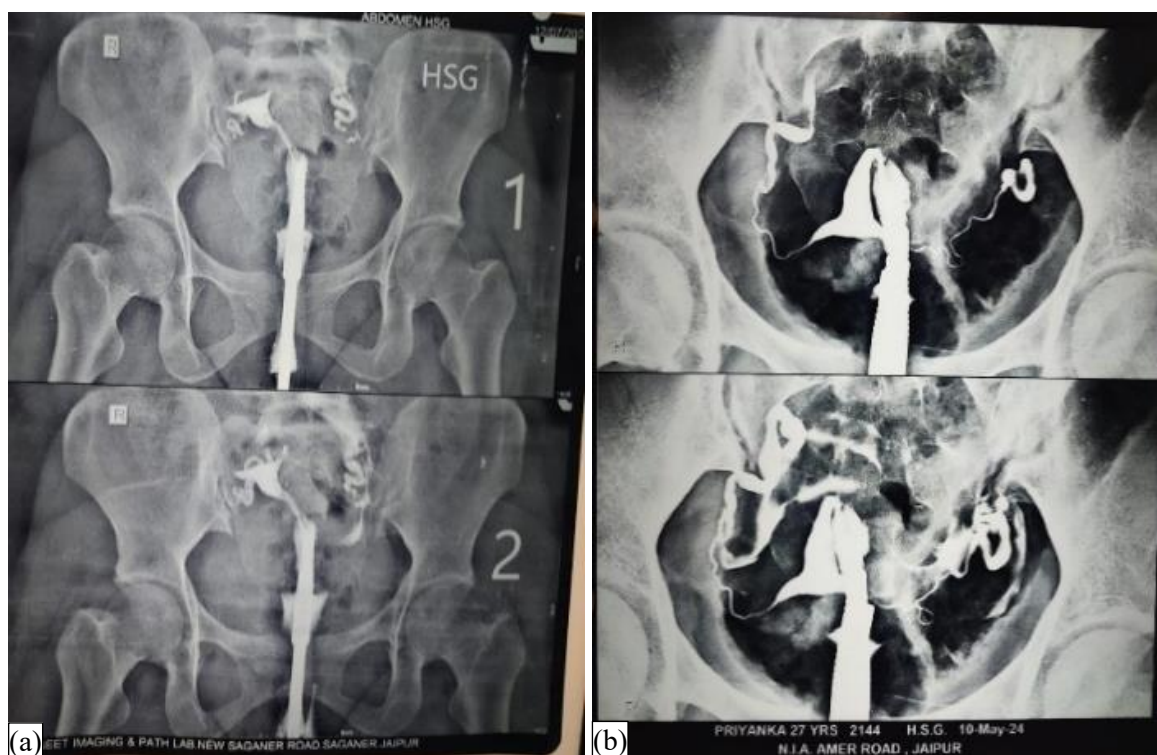
In this context, *Uttarabasti* was chosen as the preferred treatment for its targeted approach and potential benefits. Research and clinical observations suggest that such localized therapies, when combined with systemic Ayurvedic formulations, offer a holistic, accessible, and cost-effective alternative to modern assisted reproductive technologies for selected cases of infertility.

### PATIENT'S INFORMATION

A 27-year-old married woman visited the outpatient department of *Prasuti Tantra* and *Stree Roga* on January 11, 2024, with the primary complaint of being unable to conceive for 3 years. She had attained menarche at the age of 12, with regular menstrual cycles lasting 5 days and occurring every 28–30 days.

The patient had been married for 4 years and had been attempting to conceive for the last 3 years but was unsuccessful. She had a coital history of 4–5 times a week without using any contraceptive. She sought treatment at various allopathic hospitals, where investigations, including hysterosalpingography (HSG), revealed a fimbrial block in the right fallopian tube (Figure 1(a)). Normal study bilateral peritoneal spillage present shown in Figure 1(b).

Although IVF was recommended, the family chose not to pursue this option due to financial constraints and other limitations. Seeking alternative treatment, they approached the Ayurveda hospital for further management. There was no significant medical, familial, or psychosocial history identified within the couple.



**Figure 1.** (a) Right tube fimbrial block, (b) Normal study bilateral peritoneal spillage present.

### CLINICAL FINDINGS

A comprehensive general examination of the patient was conducted. Her vital signs were within normal limits, with a blood pressure of 110/80 mmHg and a pulse rate of 80 beats per minute. She measured 5 feet 4 inches in height, weighed 63 kg, and had a body mass index (BMI) of 23.85 kg/m<sup>2</sup>, indicating a healthy weight range.

The patient was afebrile, with no signs of pallor, edema, or lymphadenopathy. Systemic examinations, including cardiovascular, respiratory, gastrointestinal, and neurological assessments, revealed no abnormalities.

Her overall health appeared stable, as she reported a good appetite, regular bowel movements, sound sleep, and normal urination patterns. However, she mentioned experiencing white vaginal discharge, which was noted for further evaluation.

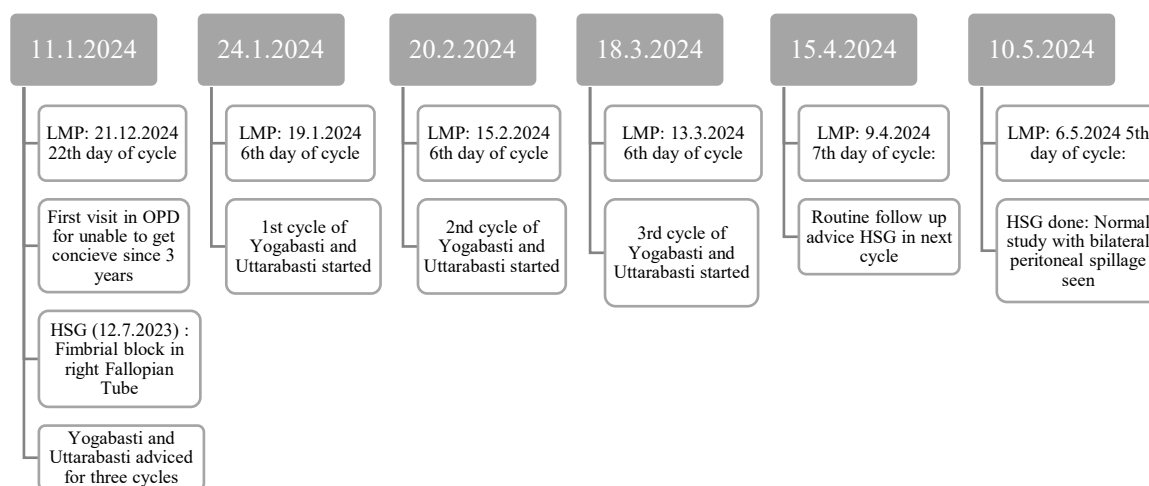
On examination of the external genitalia, the vulva and perineum were observed to be healthy, with a normal female hair pattern and no abnormalities in the skin or surrounding tissue. The external urethral meatus appeared uninfamed, and there were no signs of stress incontinence or urinary dribbling, indicating good pelvic floor function.

A detailed per-vaginal examination revealed that the uterus was in an anteverted and anteflexed position, a normal anatomical orientation, and was mobile upon palpation. The size of the uterus was within normal limits, and the cervix was firm in consistency, positioned upward, and free from cervical motion tenderness, suggesting the absence of pelvic inflammatory disease. Additionally, all fornices were nontender, further ruling out signs of localized inflammation or tenderness in the adnexal region.

During the per-speculum examination, no cervical congestion was identified. The cervical findings indicated no erosion, hypertrophy, or structural abnormalities. The vaginal walls appeared healthy, with no lesions, ulcerations, or signs of inflammation. These observations are consistent with an overall healthy reproductive tract.

## TIMELINE

The comprehensive timeline is provided in Figure 2.



**Figure 2.** Timeline (LMP – Last menstrual period, OPD – Outpatient Department, HSG – Hysterosalpingography).

## DIAGNOSTIC ASSESSMENT

During her initial visit, the patient presented a report of a HSG performed on July 12, 2023, which indicated right fallopian tube fimbrial blockage and left fallopian tube patent. She had a normal ultrasonography report of the uterus and adenexa done on April 6, 2023, and also had a follicular study showing a dominant follicle in the right ovary on the 14<sup>th</sup> day of the cycle, which was found to be ruptured in the 16<sup>th</sup> day follicular study. To assess her overall health, routine blood investigations were conducted, including a complete blood count, erythrocyte sedimentation rate, liver function tests, renal function tests, random blood sugar, and thyroid function tests. All results were within normal ranges, indicating no underlying systemic abnormalities. Additionally, tests for HBsAg, HIV, and the Venereal Disease Research Laboratory test returned negative, further confirming the absence of any infectious or sexually transmitted conditions. These findings helped to rule out other potential factors contributing to her infertility, directing the focus toward her fallopian tube blockage as the primary concern.

## THERAPEUTIC INTERVENTION

*Uttarabasti* was performed using *Apamarga Kshara Taila* as the primary therapeutic oil. Along with each cycle of *Uttarabasti*, the *Yoga basti* regimen was also followed. The procedure in *Yoga basti*, the *Anuvasana Basti*, which is a medicated oily enema, was administered after the patient had a light meal in the morning. The medicated oil used for this enema was *Dashamoola Taila*, a formulation known for its therapeutic properties. Another procedure of *Yoga basti*, the *Asthapana Basti*, a therapeutic decoction enema, was given early in the morning on an empty stomach. This enema consisted of *Dashamoola Kwatha*, a potent herbal decoction, combined with *Dashamoola Taila*.

Prior to the administration of *basti* procedures in the morning, the patient underwent preparatory treatments aimed at promoting overall relaxation and ensuring the optimal condition of the whole body, especially the reproductive tract. The first step involved *Sarvanga Snehana*, which is a whole-body therapeutic oleation using *Dashamoola Taila*, followed by *Sarvanga Swedana*, a whole-body sudation using hot water. These therapies helped to balance the doshas and prepare the body for the upcoming procedure. *Sarvang Snehana* and *Sarvang Swedana* was done early morning empty stomach. Afterward, on the day of *Anuvasana basti*, the patient was advised to have a light, easily digestible meal before the procedure, but *Asthapana basti* was given empty stomach.

After the cessation of menstruation, *Yoga basti* started from 6<sup>th</sup> day of the menstrual cycle, and *Uttarabasti* was done on 9<sup>th</sup>, 10<sup>th</sup>, and 11<sup>th</sup> day on menstrual cycle after the procedure of *Yoga basti* (Table 1). This multistep Ayurvedic protocol aimed to cleanse and prepare the reproductive tract, ensuring optimal conditions for the *Uttarabasti* to be effective in addressing the underlying issues such as tubal blockage. This regimen was designed to balance the doshas, promote uterine health, and enhance the overall effectiveness of the treatment.

**Table 1.** Therapeutic intervention.

S.N.	Day of Menstrual Cycle	Procedure of Yoga Basti	Uttarabasti
1	6 <sup>th</sup>	Anuvasana Basti.	–
2	7 <sup>th</sup>	Anuvasana Basti.	–
3	8 <sup>th</sup>	Athapana Basti.	–
4	9 <sup>th</sup>	Anuvasana Basti.	✓
5	10 <sup>th</sup> .	Athapana Basti.	✓
6	11 <sup>th</sup>	Anuvasana Basti.	✓
7	12 <sup>th</sup>	Athapana Basti.	–
8	13 <sup>th</sup>	Anuvasana Basti.	–

## METHOD OF *UTTARABASTI* ADMINISTRATION

Prior to the administration of *Uttarabasti*, the patient was instructed to take an easily digestible meal, and then her vitals were examined afterwards, she underwent a preparatory procedure. For the procedure itself, she was instructed to lie in the lithotomy position, a standard position for gynecological procedures. The perivaginal area was cleansed using *Yoni Prakshalana*, a vaginal wash with *Triphalalawatha*, a decoction made from the fruits of *Emblica officinalis* (Amla), *Terminalia bellirica* (*Bibhitaki*), and *Terminalia chebula* (*Haritaki*), which are known for their purifying and rejuvenating properties. All necessary aseptic measures were strictly followed to ensure a sterile environment.

To facilitate the procedure, the vagina and cervix were visualized using a Sims' speculum and an anterior vaginal wall retractor. Allis' forceps were used to gently hold the anterior lip of the cervix. A uterine sound was inserted into the cervix to assess the length and direction of the uterus, ensuring accurate placement of the treatment. A sterile intrauterine insemination cannula, preloaded with 5 ml of *Apamarga Kshara Taila*, was then inserted into the cervical canal, directed toward the internal OS (opening of the uterus). The oil was slowly injected into the uterus, ensuring complete administration of the medication. After the procedure, both the cannula and the syringe were carefully removed.

The patient was advised to maintain a head-low position for approximately 30 minutes to allow the oil to settle properly within the uterus and again vitals of the patient were examined. She was also instructed to remain in bed for at least 2 hours to rest and promote the treatment's effectiveness. Following the bed rest, a hot water bag was applied to the lower abdomen to soothe and relax the area.

This process was repeated for 3 consecutive days in each cycle. A total of three cycles of *Uttarabasti* were administered over 3 consecutive months, as outlined in Table 2.

**Table 2.** Schedule of *Uttarabasti*.

Cycle of <i>Uttarabasti</i>	Last Menstrual Period	Date of <i>Uttarabasti</i>	Day of Menstrual Cycle	Retained Oil	Returned Oil
1 <sup>st</sup>	19.1.2024	27.1.2024	9 <sup>th</sup>	2 ml	3 ml
		28.1.2024	10 <sup>th</sup>	2 ml	3 ml
		29.1.2024	11 <sup>th</sup>	2 ml	3 ml
2 <sup>nd</sup>	15.2.2024	23.2.2024	9 <sup>th</sup>	2.5 ml	2.5 ml
		24.2.2024	10 <sup>th</sup>	1.5 ml	3.5 ml
		25.2.2024	11 <sup>th</sup>	1.5 ml	3.5 ml
3 <sup>rd</sup>	13.3.2024	21.3.2024	9 <sup>th</sup>	2 ml	3 ml
		22.3.2024	10 <sup>th</sup>	2 ml	3 ml
		23.3.2024	11 <sup>th</sup>	2 ml	3 ml

## FOLLOW UP AND OUTCOMES

The patient underwent regular follow-up visits before and after each cycle of *Uttarabasti* to monitor her progress and assess the effectiveness of the treatment. After completing the fifth cycle of *Uttarabasti*, a follow-up HSG was performed on May 5, 2024. The results of the HSG showed a normal study, with bilateral peritoneal spillage, indicating that both fallopian tubes had regained their patency. This finding confirmed the success of the treatment in resolving the blockage, which had previously been identified in the initial HSG prior to the start of the treatment. The improvement in tubal patency was a significant positive outcome, demonstrating the effectiveness of *Uttarabasti* in addressing the patient's infertility caused by tubal obstruction. Figure 1(b) illustrates the results of the HSG, which further validated the successful restoration of normal reproductive function.

## DISCUSSION

Fallopian tube blockage, particularly at the fimbrial end, is one of the primary causes of female infertility. Conventional management often involves advanced techniques, such as IVF or surgical interventions like tuboplasty. While effective, these options are invasive, expensive, and not universally accessible [9]. Additionally, cultural and personal barriers can limit their acceptability in certain communities [10]. This case study highlights an Ayurvedic approach, employing *Uttarabasti* (intrauterine administration of medicated oil) and Yoga Basti (a combination of therapeutic enemas), as an alternative treatment for fimbrial blockage of the fallopian tubes.

*Yoga Basti*, incorporating *Dashmoola Taila* and *Dashmoola Kwatha*, provided systemic detoxification and nourishment to the body, particularly the pelvic region. *Dashmoola*, a classical Ayurvedic formulation of ten roots, is revered for its anti-inflammatory, analgesic, and rejuvenative properties [11]. The combination of *Anuvasana Basti* (medicated oil enema) and *Niruha Basti* (medicated decoction enema) likely facilitated a synergistic effect, reducing inflammation, and improving blood circulation in the reproductive organs [12].

The use of *Uttarabasti* with *Apamarga Kshara Taila* in this study is particularly noteworthy. In Ayurveda, *Uttarabasti* is described as a localized therapy with the potential to directly influence the reproductive tract. *Apamarga Kshara Taila*, prepared from the alkali of *Achyranthes aspera* (Apamarga), is known for its srotoshodhaka (channel-cleansing) and *lekhana* (scraping) properties [13].

These qualities are crucial for addressing blockages and adhesions in delicate structures like the fallopian tubes. The therapy was preceded by *Sarvanga Snehana* (full-body oleation) and *Swedana* (sudation), which helped in systemic detoxification and enhanced tissue receptivity to the treatment [14].

This integrated approach demonstrated significant clinical efficacy, as confirmed by follow-up HSG. The posttreatment findings revealed bilateral tubal patency with normal peritoneal spillage, indicating the restoration of functional integrity in the fallopian tubes [15]. The success of this case highlights the potential of Ayurvedic therapies to address even challenging conditions like tubal blockage [16].

It is important to note that the underlying mechanisms of *Uttarabasti* and *Yoga Basti* may align with modern physiological principles. The intrauterine administration of medicated oils may reduce local inflammation, dissolve adhesions, and promote tissue repair through improved vascularization [17]. Similarly, the systemic effects of *Yoga Basti* may support hormonal balance and enhance uterine and tubal health [18].

However, this case study also underscores the need for further research. While promising, the findings are based on a single patient and cannot be generalized. Rigorous clinical trials with larger sample sizes are essential to validate the efficacy and safety of these therapies. Additionally, standardization of protocols for *Uttarabasti* and *Yoga Basti* is required to ensure consistent outcomes.

## CONCLUSIONS

In conclusion, the Ayurvedic approach outlined in this case study offers a holistic, minimally invasive, and cost-effective alternative for managing tubal infertility. By integrating traditional wisdom with modern diagnostic tools, such therapies have the potential to expand the repertoire of treatment options available to women facing infertility. Further exploration and validation of these methods could bridge the gap between conventional and traditional medicine, fostering more comprehensive care for reproductive health challenges.

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