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Review Article

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"AYURVEDIC MANAGEMENT OF TUBAL BLOCKAGE: UTTARA BASTI WITH KSHARA TAILA AND ALLIED FORMULATIONS — A NARRATIVE REVIEW"

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ABSTRACT:

Background: Tubal pathology accounts for roughly one-fifth to one-third of female infertility. Conventional management relies on tubal surgery, radiological recanalisation or in vitro fertilisation, which are costly and not universally accessible. Ayurvedic gynaecologists in India treat tubal blockage with intrauterine Uttara basti using alkaline (Kshara) and other medicated oils, but the evidence for this practice has not been critically appraised. **Objective:** To review the Ayurvedic understanding of tubal blockage, the rationale and protocols for Uttara basti with Kshara taila and allied oils, the published clinical outcomes, and the diagnostic and safety issues relevant to interpreting them. **Methods:** Charaka Samhita, Sushruta Samhita and Bhaishajya Ratnavali were reviewed for concepts of the reproductive channels, alkaline preparations and Uttara basti. PubMed was searched up to October 2026 for Ayurvedic studies of tubal blockage and Kshara preparations, and for reviews, guidelines and trials on tubal diagnosis, tubal flushing and procedural safety. Each cited record was verified against PubMed and findings were synthesised narratively. **Results:** Ayurvedic authors interpret tubal blockage as obstruction (Sanga) of the Artavavaha srotas by Vata and Kapha, for which scraping and channel-clearing drugs are indicated. Two uncontrolled studies of Uttara basti with Kumari taila and Yavakshara taila reported tubal patency in 80% and 68.8% and conception in 40% and 6.3% of women respectively. No PubMed-indexed clinical study of Kshara taila Uttara basti specifically in tubal blockage was identified; its use is supported by a case report in endometrial calcification and by its classical properties. Hysterosalpingography, used to select and assess patients, has limited sensitivity for occlusion, and tubal flushing itself can improve fertility. **Conclusion:** Uttara basti with alkaline oils is a plausible, low-cost option for proximal tubal blockage, but current evidence is preliminary. Controlled trials using reliable tubal assessment and live birth as the primary outcome are required.

KEYWORDS: Tubal blockage, Artavavaha srotas, Uttara basti, Kshara taila, Yavakshara taila, Kumari taila

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INTRODUCTION

Tubal factor infertility results from blockage or damage of the fallopian tubes, which prevents the meeting of sperm and oocyte or the transport of the embryo to the uterus. A recent Cochrane review estimated that around 18% to 33% of couples with infertility present with tubal occlusion or hydrosalpinx[1], and Ayurvedic investigators cite figures of 25–35% of female infertility[2]. The most important cause is ascending infection, particularly with *Chlamydia trachomatis*, which is frequently asymptomatic in women but may lead to pelvic inflammatory disease, tubal damage and ectopic pregnancy[3]. Other causes include endometriosis, previous pelvic surgery and, in the proximal tube, transient obstruction by mucus plugs or spasm.

Diagnosis rests on tubal patency tests, including hysterosalpingography, sonographic techniques and laparoscopy with chromopertubation, the last being the reference standard[1,4]. Treatment depends on the site and severity of disease. Proximal occlusion may be treated by selective salpingography and fluoroscopy-guided tubal recanalisation, after which spontaneous conception is possible[5], whereas distal disease and hydrosalpinx generally require surgery, and in vitro fertilisation is the definitive option for severe or bilateral damage[6,7]. These treatments are invasive or expensive and remain beyond the reach of many couples in India.

In Ayurvedic gynaecology, intrauterine Uttara basti with medicated oils has become a widely used non-surgical treatment for tubal blockage. Oils containing plant alkalis (Kshara), such as Kshara taila and Yavakshara taila, and other oils with scraping properties, such as Kumari taila, are preferred[2,8,9]. The aim of this review is to explain the Ayurvedic rationale for this practice, describe the protocols in use, summarise and critically appraise the clinical evidence, and identify the diagnostic and safety considerations that should guide practice and research.

METHODOLOGY

This narrative review was prepared in two parts. First, the classical texts, namely Charaka Samhita (Chikitsa sthana, chapter 30), Sushruta Samhita (Sharira sthana, chapter 9, Sutra sthana, chapter 11 and Uttara tantra, chapter 38) and Bhaishajya Ratnavali, were studied with standard commentaries for the description of the reproductive channels, alkaline preparations and Uttara basti[10–12]. Second, PubMed was searched for literature published up to October 2026 using combinations of the terms tubal blockage, tubal infertility, hydrosalpinx, Ayurveda, Uttarabasti, Uttara basti, Kshara, Yavakshara, Apamarga kshara, tubal flushing, hysterosalpingography and pelvic inflammatory disease. Clinical studies, case reports, systematic reviews, Cochrane reviews and cohort studies were considered. Every reference cited was checked against its PubMed record for authors, title, journal, year, volume, pages and digital object identifier. Retracted publications identified during the search were excluded. The findings are synthesised narratively rather than statistically.

AYURVEDIC UNDERSTANDING OF TUBAL BLOCKAGE

1. The fallopian tubes and Artavavaha srotas

The classical texts do not describe the fallopian tubes as separate organs. Sushruta describes the Artavavaha srotas, the channels carrying Artava, as having their roots in the uterus (Garbhashaya) and the vessels carrying Artava, and states that injury to them results in infertility, painful intercourse and absence of menstruation[11]. Because Artava in this context denotes both menstrual blood and the female reproductive element, Ayurvedic authors correlate the fallopian tubes with the part of the Artavavaha srotas that conveys the ovum (Artava-bija-vaha srotas)[2].

2. Samprapti (pathogenesis)

Charaka describes four types of channel disorder (Srotodushti): excessive flow, obstruction (Sanga), abnormal growth and flow along an abnormal path[10]. Tubal blockage is interpreted as Sanga of the Artava-bija-vaha srotas[2]. Following Charaka's teaching that new diseases should be understood in terms of their constitution, site, features and causes, Shukla Upadhyaya and colleagues analysed the role of all three Doshas in tubal blockage. Vata produces constriction and spasm, Kapha produces swelling, adhesion and obstruction, and Pitta produces inflammation, which corresponds to the infective and inflammatory origin of much tubal disease[2]. In practice, Vata and Kapha are regarded as the dominant Doshas, and treatment aims to pacify them and to scrape (Lekhana) and clear (Srotoshodhana) the obstructed channel[2,8].

3. Rationale for local treatment

Uttara basti is the classical local therapy for disorders of the female reproductive tract and is advised in the post-menstrual phase, when the cervical orifice is considered receptive[10,11]. Instillation into the uterine cavity places the medicament directly at the uterotubal junction, where proximal obstruction occurs. Drugs with sharp (Tikshna), penetrating (Sukshma), hot (Ushna) and scraping properties are selected for obstruction, and alkaline preparations exemplify these properties[8,9,13].

KSHARA AND THE OILS USED IN UTTARA BASTI

1. Kshara: classical properties and standardisation

Kshara are alkaline substances prepared from the ash of medicinal plants by dissolving the ash in water, filtering and evaporating the filtrate. Sushruta devotes a chapter to Kshara and regards it as superior among sharp instruments and procedures because it can cut, scrape, cleanse and heal, and it acts on all three Doshas; he distinguishes mild, moderate and strong forms and both internal and external uses[11]. In Ayurvedic surgery, Apamarga (*Achyranthes aspera*) kshara is widely used for its scraping and cleansing action, including in Kshara sutra and in local applications[14].

The quality of Kshara depends on its method of preparation. A pharmaceutical standardisation study of Apamarga kshara found that the first washing of the ash yielded 21.23% w/w Kshara, and repeated washing of the sediment yielded a further 9.38% and 4.76%, showing that yields vary substantially with the method used and supporting the development of standard manufacturing processes[15]. Comparable standardisation of Kshara-containing oils for intrauterine use has not been reported.

2. Kshara taila

Kshara taila is a classical medicated oil, described in the compendia among remedies for diseases of the ear, in which sesame oil is processed with plant alkalis, including the alkali of dried radish, together with pungent and aromatic drugs[12]. Ayurvedic gynaecologists have adapted it for intrauterine use because of its scraping, Kapha-reducing and channel-clearing properties. Despite its wide clinical use for tubal blockage in India, no PubMed-indexed clinical study of Kshara taila Uttara basti specifically for tubal blockage was identified in this review. The closest evidence is a case report of endometrial calcification associated with scanty menstruation, in which Uttara basti with Kshara taila and Phala ghrita for three consecutive months after menstruation was followed by improvement in menstrual flow, a reduction of calcification on ultrasonography and subsequent conception[9]. The combination of an alkaline oil with a nourishing ghee reflects the classical principle of pairing cleansing with nourishment, although the report does not allow the contribution of either preparation to be separated.

3. Yavakshara taila

Yavakshara is the alkali obtained from barley (*Hordeum vulgare*) and is a component of many classical formulations. Yavakshara taila, an oil incorporating this alkali, has been studied for tubal blockage at the Institute for Post Graduate Teaching and Research in Ayurveda, Jamnagar[8].

4. Kumari taila and other allied oils

Kumari taila, prepared with *Aloe vera* (Kumari) as a principal ingredient, was selected for tubal blockage by its investigators because of its Vata-Kapha-pacifying and scraping properties[13]. Other oils used in clinical practice, including Apamarga kshara taila, have been evaluated in Uttara basti for urethral stricture, another obstructive disorder of a narrow channel. In 60 patients with urethral stricture, Apamarga kshara taila Uttara basti was compared with urethral dilatation and significant improvement in obstructed flow, straining and dribbling was reported[16]. This study is not directly applicable to the fallopian tubes but shows that alkaline oils can be instilled repeatedly into a sensitive mucosal channel without reported adverse effects.

CLINICAL EVIDENCE IN TUBAL BLOCKAGE

1. Protocols

The two published clinical studies used a common protocol. After cessation of menstruation and screening by haematological, urine and serological tests, including tests for human immunodeficiency virus, syphilis and hepatitis B, women received 5 mL of medicated oil by intrauterine instillation on six days, given in groups with an interval of three days between them, over two consecutive cycles[8,13]. Tubal status

was assessed by hysterosalpingography before and after treatment. Women with active infection or chronic diseases were excluded[13].

2. Kumari taila Uttara basti

Shukla Upadhyay and colleagues treated 16 women of reproductive age with unilateral (62.5%) or bilateral (37.5%) tubal blockage on hysterosalpingography, of whom 15 completed treatment. Tubal blockage was removed in 80% of patients, and 40% conceived within a two-month follow-up, with no apparent complications[13].

3. Yavakshara taila Uttara basti

Baria and colleagues treated 19 women with at least one blocked tube, 42.1% unilateral and 57.9% bilateral, with Yavakshara taila Uttara basti using the same schedule. Tubal patency was found in 68.8% of patients and conception in 6.3%, and no apparent complications were reported[8].

4. Case reports

A case report from a Central Council for Research in Ayurvedic Sciences institute described a 30-year-old woman with eight years of infertility attributed to tubal blockage who was treated with purification (Shodhana) procedures together with oral Ayurvedic medicines for 16 weeks and then conceived, with a single live intrauterine pregnancy confirmed on ultrasonography[17]. The authors interpreted the condition as Sanga in the reproductive channels and attributed the outcome to the combined effect of purification and internal medication[17].

5. Appraisal of the clinical evidence

The published studies are small, single-centre and uncontrolled, and together include fewer than 40 women[8,13]. Patency was assessed by hysterosalpingography, follow-up for conception was short, and live birth was not reported. The considerable difference in conception rates between the two studies, 40% and 6.3%, despite similar patency rates, may reflect differences in the populations, the proportion of bilateral or distal disease, the duration of follow-up or chance, and illustrates the instability of estimates from small samples[8,13]. Conception was not compared with that in untreated women with similar disease, and in women with unilateral occlusion spontaneous conception is common[18].

INTERPRETING TUBAL PATENCY OUTCOMES

1. Limitations of hysterosalpingography

Hysterosalpingography is the most widely used tubal test but it is imperfect. In a 2026 Cochrane review of 21 studies with laparoscopy and dye as the reference standard, hysterosalpingography had a pooled sensitivity of 0.77 and specificity of 0.94 for bilateral tubal occlusion, with very low to moderate certainty of evidence[1]. A systematic review of diagnostic methods likewise found high sensitivity but variable specificity for hysterosalpingography, limiting its reliability for confirming occlusion, and recommended a stepwise approach with laparoscopy reserved for selected cases[4]. False diagnoses of proximal occlusion, caused by cornual spasm, mucus or debris, are well recognised. When such women are retested after any intervention, apparent recanalisation may occur without true tubal disease having been treated.

2. The therapeutic effect of tubal flushing

A second confounder is the effect of flushing itself. A Cochrane review of 15 trials involving 3864 women found that tubal flushing with oil-soluble contrast media may increase live birth (odds ratio 3.27) and clinical pregnancy compared with no treatment, while the effect of water-soluble media was uncertain[19]. The mechanisms are unknown but may include dislodgement of debris and mucus plugs and effects on the tubal and endometrial environment. Uttara basti involves instillation of oil into the uterine cavity under gentle pressure and may exert a similar mechanical effect, so that part of the observed benefit could be due to the procedure rather than to the specific pharmacological action of the alkaline oils.

3. Site of obstruction

The site of obstruction strongly influences prognosis. After fluoroscopy-guided recanalisation, clinical pregnancy rates were about 51–58% and were higher in proximal occlusion, whereas no pregnancies occurred in women with bilateral distal obstruction[5]. Similarly, in women with unilateral tubal pathology, proximal occlusion had intrauterine insemination outcomes similar to those of women with patent tubes, whereas distal occlusion had inferior outcomes[18]. Distal disease and hydrosalpinx reflect more severe mucosal damage and are unlikely to respond to any intrauterine therapy; current evidence supports salpingectomy or proximal tubal occlusion before in vitro

fertilisation in women with hydrosalpinx[6,7]. Ayurvedic studies have not reported outcomes by site of obstruction, and future studies should do so.

SAFETY CONSIDERATIONS

Tubal blockage is often a sequel of pelvic infection, and intrauterine procedures in this population carry a risk of reactivating or introducing infection[3]. In a national Dutch survey of 5165 hysterosalpingographies, pelvic inflammatory disease occurred after 0.3–0.4% of procedures, and intravasation of contrast occurred in 4.8% of procedures with oil-based and 1.3% with water-based media, without further consequences[20]. A systematic review of antibiotic prophylaxis for transcervical procedures recommended screening and treating women at risk of pelvic infection beforehand, and giving prophylaxis to women with a history of pelvic inflammatory disease or dilated fallopian tubes[21].

Ayurvedic studies have screened for systemic infections and excluded women with active pelvic infection[8,13], but they have not reported screening for *C. trachomatis* or other genital pathogens, the use of antibiotic prophylaxis or the microbiological quality of the oils. Alkaline preparations are by nature caustic; the strength of the Kshara in an oil intended for the endometrium should be standardised and tested, since excessive alkalinity could injure the endometrium or tubal mucosa. Uttara basti for tubal blockage should be avoided in women with hydrosalpinx, active or recent pelvic inflammatory disease, possible pregnancy or undiagnosed abnormal bleeding, and should be performed aseptically by trained practitioners with sterile disposable instruments.

DISCUSSION

This review shows that the Ayurvedic treatment of tubal blockage with Uttara basti rests on a coherent theoretical rationale, in which obstruction of the Artava-bija-vaha srotas by Vata and Kapha is treated with sharp, scraping and channel-clearing alkaline oils delivered directly into the uterus[2,10,11]. Two uncontrolled studies report high patency rates after Kumari taila and Yavakshara taila Uttara basti, and case reports describe conception after integrated Ayurvedic regimens[8,13,17]. These results are encouraging and the procedure is inexpensive.

Nevertheless, the evidence is weak. The studies are small, uncontrolled and short-term, they rely on hysterosalpingography for both selection and assessment, they do not stratify by site of obstruction, and they do not report live birth[1,8,13]. The specific contribution of the alkaline component, as opposed to mechanical flushing with any oil, is unknown[19]. Notably, Kshara taila, the oil most associated with this indication in contemporary practice, lacks published clinical data in tubal blockage, and its intrauterine use is extrapolated from its classical properties and from experience in other conditions[9,12].

Several research priorities follow. Trials should confirm tubal occlusion with a reliable method, preferably laparoscopy with chromopertubation or validated sonographic techniques, should restrict enrolment to proximal occlusion or stratify by site, and should randomise women to Uttara basti with a Kshara oil, Uttara basti with plain sesame oil, or standard care, so that the pharmacological and mechanical effects can be separated[1,4,19]. Clinical pregnancy and live birth over at least 12 months should be the primary outcomes, and adverse events, especially pelvic infection, should be recorded systematically[20,21]. Oils should be prepared to standard manufacturing processes with defined alkali content and microbiological quality[15].

For clinicians, Uttara basti with alkaline oils may be considered for women with suspected proximal tubal blockage who wish to avoid or cannot access tubal surgery or in vitro fertilisation, after screening for genital infection and with appropriate counselling. It should not delay effective treatment in older women or those with reduced ovarian reserve, and women with hydrosalpinx or distal disease should be referred for surgical assessment[6,7].

CONCLUSION

Uttara basti with Kshara taila, Yavakshara taila, Kumari taila and allied oils offers a theoretically grounded, low-cost Ayurvedic approach to tubal blockage. Small uncontrolled studies report high rates of tubal patency and variable conception rates, but the evidence is preliminary, Kshara taila itself lacks specific clinical data in this indication, and the effects of diagnostic error and mechanical flushing cannot be excluded. Rigorous randomised trials with reliable tubal assessment, stratification by site of obstruction, live birth as the primary outcome and systematic safety reporting are needed to establish the place of this therapy in integrative fertility care.

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