

See discussions, stats, and author profiles for this publication at: <https://www.researchgate.net/publication/51844126>

# Infertility caused by tubal blockage: An ayurvedic appraisal

Article in *AYU (An International Quarterly Journal of Research in Ayurveda)* · April 2010

DOI: 10.4103/0974-8520.72378 · Source: PubMed

---

CITATIONS

12

---

READS

1,379

3 authors, including:



**Kaumadi Karunagoda**  
University of Colombo

65 PUBLICATIONS 83 CITATIONS

[SEE PROFILE](#)



**Laxmipriya Dei**  
Institute of Teaching and Research in Ayurveda

63 PUBLICATIONS 235 CITATIONS

[SEE PROFILE](#)

## Review Article

# Infertility caused by tubal blockage: An ayurvedic appraisal

Kamayani Shukla (Upadhyaya), Kaumadi Karunagoda<sup>1</sup>, L. P. Dei

Department of Stri Roga and Prasuti Tantra (S.R.P.T.), Institute for Post Graduate and Research in Ayurveda, Gujarat Ayurved University, Jamnagar, <sup>1</sup>IIM, University of Colombo, Sri Lanka.

### Abstract

Tubal blockage is one of the most important factors for female infertility. This condition is not described in Ayurvedic classics, as the fallopian tube itself is not mentioned directly there. The present study is an effort to understand the disease according to Ayurvedic principles. Correlating fallopian tubes with the *Artavavaha (Artava-bija-vaha) Srotas*, its block is compared with the *Sanga Srotodushti* of this *Srotas*. Charak's opinion that the diseases are innumerable and newly discovered ones should be understood in terms of *Prakriti, Adhishthana, Linga, and Aayatana*, is followed, to describe this disease. An effort has been made to evaluate the role of all the three *Doshas* in producing blockage, with classification of the disease done as per the *Dasha Roganika*.

**Key words:** *Artavadiushti, Asrigdara, Bandhyatva, Rati-janya Vikara, Tubal blockage, Yonivyapada, Infertility.*

## Introduction

The anatomical description in Ayurvedic literature is different from modern medical science. The manner in which bodily organs are defined is based more upon the principles than the structures. Modern science is based on the *Pratyaksha* only, while *Ayurveda* does consider the *Anumana* as well as the *Aptopadesha*, in addition to the *Pratyaksha*. The description of the anatomy varies from each other in both the sciences and one cannot find an equivocal reference for various anatomical structures like fallopian tubes. In *Ayurveda*, the anatomical description is gross and based on various principles like *Srotasa, Dhātu, Marma*, and so on. *Srotasa* is one of the most controversial points, but of course important too, as it is recognized as the structural and functional unit of the body. The term '*Srotas*,' as used in Ayurvedic texts, depicts the dynamic and inner transport system of the body-mind spirit organization. The *Srotovigyana* encompasses all ranges of the structural and functional units from the grossest to the subtlest, designed to carry specific materials, molecules, messages, impulses, emotions, and thoughts under a unique holistic coordination in a unified field. Thus, the *Srotas* represents the unified field of pathways, gross and subtle, material and energetic. Such an approach of *Ayurveda* seems to have developed thousands of years ago, to allow the functioning of the life process on a quantum basis, which could not have been easy to practice through the

reductionist approach of western medical science, which worked on the basic premise of dualities and divisions in consideration of the organ-tissue-cell-genome approach largely based on classical physics, which itself was getting ready to change.<sup>[1]</sup>

Thus, it is crystal clear that any organ or bodily structure must be under the umbrella of any one of the *Srotamsi*, and accordingly an attempt has been made to understand the fallopian tubes as *Artavavaha Srotas*, as described by Sushruta.<sup>[2]</sup> These are two in number having roots in the *Garbhashaya* and *Artavavahi Dhamnis*, injuries to which causes *Bandhyatva* (infertility), *Maithunasahishnuta* (dyspareunia), and *Artavanasha* (anovulation or amenorrhea). It is compared with uterine arteries, especially their capillary bed, because these arteries are responsible for carrying menstrual blood, which is compared to *Artava* in several places, and injuries to these vessels may cause infertility too.<sup>[3,4]</sup> This correlation of *Artavavaha Srotas* with uterine arteries does not seem to be fully acceptable for some reasons. First and foremost the anatomy of the genital organs described in *Ayurveda* is gross and not so microscopic as to define the capillary bed. Another reason not to compare *Artava* with menstrual blood is that Sushruta's description on *Srotas* is related to *Dhatus* and *Upadhatus* (basic structural and functional units of body), and hence, the word *Artava* looks closer to the ovum and not the menstrual blood. Moreover, the symptom of dyspareunia cannot be directly related to the uterine arteries. Besides this, the uterine artery is not mentioned anywhere as being the most important factor for infertility. Thus, the *Artavavaha Srotas* is quite appropriate to compare with the fallopian tubes because these are the structures responsible to carry the *Artava*, that is, the ovum. Infertility is also directly related to the abnormality of the tubes. Any damage to these tubes may lead to infertility, by restricting the fertilization. Dyspareunia is also a very important and cardinal feature of the

**Address for correspondence:** Dr. Kamayani Shukla (Upadhyaya), Ayurvedic Gynaecologist and Obstetrician, Pratapgarh, Uttar Pradesh, India. E-mail: kamayani.shukla@yahoo.com

DOI: 10.4103/0974-8520.72378

infection or any type of inflammation of the tubes. Infertility is a manifestation of tubal blockage in 25 – 30%<sup>[5]</sup> of the cases, which is a consequence of inflammation of the fallopian tubes. Feature of *Artavanasha* is not easy to correlate directly with any entity regarding tubes, but if *Artava* is compared with the ovum, *Artavanasha* can be understood as the anovulation as a consequence of salpingo-oophoritis associated with salpingitis, that is, inflammation of the fallopian tubes.

Several authors have compared *Artavavaha Srotas* with the fallopian tubes, by including the ovary as well. *Artavavaha Srotas*, were described as two, and represented the *Shukravaha Srotas* of the male body on both the sides (right and left), and were responsible for the production and expulsion of the ovum. Sushruta might have described its original place as the uterus only because of (the attachment of fallopian tubes to the uterus) the gross anatomy he observed in a female body.<sup>[6]</sup> More interestingly, on the basis of the above-mentioned peculiarities about *Artavavaha Srotas*, *Ayurveda* is considered the first medical science to describe the fallopian tubes over the history of gynecology in the world.<sup>[7]</sup> One more indirect description of the fallopian tube can be taken as the extra *Ashaya* in females described by *Sharangadhara*, where he mentions the *Garbhashaya* as *Dhara* and the extra *Ashaya* in females.<sup>[8]</sup> *Garbhashaya* as a whole is considered as the site of conception, and is called *Dhara*. The fallopian tube being a part of the uterus (*Garbhashaya*) is automatically accepted as the place of fertilization. According to some authors, description of *Gavinis* in the *Atharvaveda* is also compared with the fallopian tubes,<sup>[9]</sup> as is evident by the references in the context of conception and easy delivery of the child. Keeping all these views in mind *Artavavaha Srotas* can be considered as a broad term for both the functional units, that is, *Artava Bija Vaha Srotas* and *Artava Rajavaha Srotas*.<sup>[4]</sup> The *Artava Bija Vaha Srotas* is the fallopian tube, and it is responsible for carrying the *Bija Roopi Artava* or ovum, and injury to this can cause all the three features mentioned by Sushruta.

Understanding of tubal blockage in Ayurveda: The pathogenesis of the disease, in *Ayurveda*, is defined very differently from western medical science. It is initiated with the accumulation and vitiation of *Doshas*. Thus, an approach can be developed toward tubal infertility by finding out the *Bandhyatva* based on *Nidanas* and *Samprapti*. *Charaka* has given space to understand the newly diagnosed diseases on the basis of *Prakriti* (*Doshas*; root cause), *Adhishthana* (*Dushya*; seat), *Linga* (*Lakshanas*; features), and *Aayatana* (*Ahar Vicharadi Nidanas*).<sup>[10,11]</sup> Hence, any disease not directly indicated in the Ayurvedic classics, can be understood according to the factors described a little earlier in the text. Here, an effort is made to describe the Ayurvedic view regarding tubal blockage in terms of (a) *Prakriti*, (b) *Adhishthana*, (c) *Linga*, and (d) *Aayatana*.

*Prakriti* (*Sannikrishta karana*: root cause) - The root cause of any disease is the vitiation of either one or more of the three *Doshas* by one or more of its *Gunas*.<sup>[12-14]</sup> Vitiation of *Vata* can be considered as the most important factor for tubal infertility since it is responsible for *Dhatugati*,<sup>[15]</sup> *Cheshta*<sup>[16]</sup> and *Garbhakriti*.<sup>[17]</sup> Chakrapani has considered *Vata* the *Nimitta Karana* of *Garbha* by saying “*Bhetta Karta; Etam Cha Shair Utapatti Kale*”.<sup>[18]</sup> Acharya *Kashyapa* has mentioned *Bandhyatva* under the *Nanatamaja Vikaras* of *Vata*<sup>[19]</sup> and again he described some

features to understand the diseases not indicated in the classics and stated that any type of *Sankocha* is caused by *Vata*.<sup>[20]</sup> This *Sankocha* is one of the reasons of Tubal block and ultimately infertility. *Bhela* also considers *Vata* responsible for *Bandhyatva*, “*Iha Narchhati Garbham Stri Vatenopahata tatha*”.<sup>[21]</sup> Vitiation of *Vata* in tubal blockage causing infertility can be considered by its *Ruksha*, *Daruna* and *Khara Gunas*.<sup>[22]</sup> Chakrapani has stated *Darunatva* responsible for *Kathinya*<sup>[23]</sup> and thus, causing sclerosis of tubes, while *Rukshatva* can be considered for abnormal function of tubes and its stenosis leading to tubal block.

*Kapha* is another *Dosha* responsible for tubal block for its *Avarodhaka* and *Shophajanaka* properties. If *Kapha* vitiates due to its *Sthira*<sup>[24]</sup> *Guna*, it can lead to blockage. Sushruta has stated that *Puya* (suppuration)<sup>[25]</sup> is not possible without *Kapha*, while *Vagbhata* considers *Kapha* responsible for *Shopha* (inflammation). These *Shopha* and *Puya* are, of course, the most important causative factors for tubal infertility by producing the tubal block. In recent publication on *Ayurveda*, the tubal block is considered to be the caused by *Vatakaphajanya Avarodha*.<sup>[26]</sup> Role of *Pitta* in tubal blockage can not be totally neglected, as it is said to be responsible for *Paka*.<sup>[25]</sup> Most of the tubal blockages are the consequence of urogenital infection and thus, vitiation of *Pitta* can be considered here. *Pitta* increased with its *Drava guna*<sup>[27]</sup> may produce oedematous condition of tubes and leads to inflammation by causing *Paka*, which ultimately can create the blockage in fallopian tubes.

It is very important to note that all type of tubal blockages can not be the same. In some cases, there can be *Vata* dominance creating stenosis type of pathology, while in some other cases, block can be more structural (obstruction in lumen) manifesting the dominance of *Kapha*. In cases of tubal blockage with history of very active infection, *Pitta* can be considered a dominant factor. Hence, tubal infertility is not the manifestation of vitiation of any specific *Dosha*, rather sometimes an interplay of multiple *Doshas* and sometimes the sequel of vitiation of single *Dosha*. *Adhishthana* (*Dushya* : seat) — *Garbhashaya* is the *Adhishthana* of this disease entity and the seat of *Doshic* vitiation. On the basis of various references given in classics, *Adhishthana* can be defined in various terms, but the ultimate one is *Garbhashaya* (uterus) only. Sushruta has considered four factors essential for conception; (i) *Ritu* (proper time, i.e., ovulatory period), (ii) *Kshetra* (genital organs especially uterus), (iii) *Ambu* (nourishing substances), and (iv) *Bija* (gametes).<sup>[28]</sup> As good agricultural soil / land is essential for the purpose of fertility, normal reproductive organs, especially the uterus, is essential for conception. Dr. Ghanekar has considered *Garbhashaya* or *Garbhashaiya* as the *Kshetra* for *Garbhadhana*, although he has also taken it as *Stree* in a broader sense.<sup>[29]</sup> Here, fallopian tubes being part of the uterus itself are definitely the components of the *Kshetra*. Hence, the *Kshetra* stated by Sushruta can be considered as the *Adhishthana* of vitiation of the *Doshas*.

When describing the factors that need to be in a proper and healthy state for conception and partum, *Charaka* has clearly mentioned the term *Ashaya* other than the *Asrik* or *Bija*.<sup>[30]</sup> He has distinguished between the ovulatory and other uterine factors for conception, the most important one being the patency of the tube; and if it is considered that *Sampad* (proper

functioning) of *Ashaya* is not there, it may lead to infertility, which can easily be correlated with an abnormal tubal factor. *Garbhashaya* is mentioned as the extra *Ashaya* of the female by Sharangdhara. It seems to indicate its importance for conception. Hence, *Garbhashaya* (uterus along with cervix and tube) can be considered as the *Adhishthana* of the *Doshas* in several cases of *Bandhyatva*, and when the *Doshas* are localized in the fallopian tube, it leads to a tubal block. Taking into consideration the above-mentioned description, it can be asserted that there is an interplay of one or more *Doshas* in the *Artava Bija Vaha Srotas* (part of the eighth *Ashaya*, i.e., *Garbhashaya*), which leads to *Bandhyatva*, by causing tubal blockage.

*Linga* (*Lakshana*: Clinical features): Features of tubal blockage are not defined in the classics directly, as tubal blockage is not mentioned in *Ayurveda*. However, its features can be understood on the basis of various indirect references available in the classics, by taking into consideration all the gynecological disorders, and then find out which can be related to tubal blockage directly or indirectly. Tubal blockage is neither a complaint nor diagnosed in females not presenting with infertility. Infertility is always the presenting complaint and investigations may lead to the diagnosis of tubal blockage. Thus, *Bandhyatva* is undoubtedly the *PratyAtma Linga* (cardinal feature) of tubal blockage. The other features of tubal blockage may be explained by incorporating the features of all those diseases that can lead to tubal blockage as a consequence, and thus terminate into *Bandhyatva*. This can be supported by the clinical features of different types of *Bandhyatva* along with *Yonivyapad* and *Aartavadushti*, which can produce blocks in tubes.

Types of *Bandhyatva* and tubal blockage: Although *Charaka* has not given classification of *Bandhyatva*, his literature in successive order denotes the three types:<sup>[31]</sup> (i) *Bandhya* — absolute sterility caused by congenital absence of uterus and / or *Artava* or the condition of absolute sterility. This condition does not indicate tubal blockage directly; (ii) *Apraja* — primary infertility in which a woman conceives after treatment. This type of infertility can be due to tubal blockage, but it is not a direct indication of tubal infertility; (iii) *Sapraja*<sup>[32]</sup> — a condition in which a woman after giving birth to one or more children does not conceive in her reproductive age. The most important cause behind this type of secondary infertility is tubal blockage, which is due to post-partum infection of the reproductive organs that can lead to infertility by causing tubal blockage.

*Bandhyatva* as a disease entity is described in *Harita Samhita*.<sup>[33]</sup> However, *Harita* has defined *Bandhyatva* as failure to get a child rather than conception, as he has included *Garbhasravi* (Habitual abortions) and *Mritavatsa* (still birth) also under his classification. He has described six types of *Bandhyatva*: (1) *Kakabandhya* (secondary infertility) — a woman who does not conceive after giving birth to one child; (2) *Anapatya* (primary infertility) — a woman, who never conceives; (3) *Garbhasravi* — a lady, who suffers from habitual abortions; (4) *Mritavatsa* — a woman, who repeatedly gives birth to stillborn babies; (5) *Dhatukshaya* — a woman, who does not conceive because of losing the *Bala* or strength, and (6) Infertility due to *Garbhasamkocho* caused by coitus with a girl before menarche (*Ajatarajasa*).

Among all types of *Bandhyatva* described by *Harita*, *Garbhasravi*

and *Mritavatsa* cannot be considered as *Bandhyatva* caused by tubal blockage, because true infertility is not seen here. *Kakabandhya* and *Anapatya* are the secondary and primary types of infertility, respectively, and tubal blockage can lie behind these disorders along with several other possible causes. The fifth type of infertility, *Dhatukshaya* can be considered either as tuberculosis affecting the reproductive organs or may indicate a condition of emaciation along with lowered immunity, making her susceptible for recurrent infections. Both the conditions mentioned above may finally lead to occlusion of tubal lumen causing *Bandhyatva*. The sixth type of infertility described by *Harita* seems to be nearer to tubal infertility, because coitus before the age of menarche is the reason of infertility here. It denotes that a girl, who was normal previously, becomes infertile due to coitus at an improper age. The cause of infertility can neither be due to structural abnormality nor does it assume any hormonal imbalance or anovulation, as these problems can never be the consequence of a coital act, no matter, whether it is before or after menarche. Rather such a condition can be due to the infection of genital organs developed after injury caused due to coitus. Coitus is always a factor for the change in the pH of the vagina, which leads to growth of bacteria and causes infection of the genital tract. This infection, if it ascends toward the upper genital tract is known as Pelvic Inflammatory Disease (PID). This PID, if not treated properly, may lead to tubal blockage and can become the cause of infertility. The condition can worsen in immature girls before menarche, because menstruation can lead to cleaning of the genital tract by shedding the endometrium and thus restricting the bacteria from ascending up in upper genital tract. Moreover, the vaginal pH is not acidic in the girls before menarche, making the vagina favorable for bacterial growth. Besides this, the genital organs in such girls are not properly matured. Coitus in such a girl can cause injury to the genital organs leading to infection, PID, and ultimately tubal blockage, giving rise to infertility.

Tubal blockage in *Yoni Vyapada*: Tubal blockage is a common complication of Pelvic inflammatory disease, that is, infection of the upper genital tract. *Charaka*<sup>[34]</sup> and *Vagbhata*<sup>[35]</sup> have considered infertility as a complication of all the *Yonivyapada*. Thus, tubal blockage can be taken as a complication of those *Yonivyapadas*, which are comparable to PID, on the basis of their symptomatology. These *Yonivyapadas* are described herewith: *Paittika* or *Pittala*<sup>[36-38]</sup> — Almost all Acharyas have described the features of genital tract infection by mentioning *Daha*, *Paka*, *Jvara*, *Neela* – *Pita* – *Asita* *Artava*, *Puti gandha*, and *Bhrishoshnakunap Srava*-like features. On the basis of these symptoms, this *Yoni Vyapada* is compared with the infection of reproductive organs.<sup>[39]</sup> *Tridoshaja* or *Sannipatik*<sup>[40-42]</sup> — This *Yonivyapada* is considered as an acute infective disorder of the reproductive system that has either developed due to infection of this system itself or as a consequence of the disorder of another system,<sup>[43]</sup> on account of its characters such as *Dahashulaarta* *Shwetapichhilavahini* (Burning sensation with pain, yellowish and white unctuous vaginal discharge, etc.). As this condition is a clear cut description of a mixed type of severe genital tract infection, it may definitely lead to infertility as a consequence, by producing a tubal block as a complication.

*Aticharna*<sup>[44-46]</sup> — Here *Charaka* and *Vagbhata* have given features of *Shopha*, *Supti*, and *Ruja* due to *Ativyavaya*, while *Sushruta* has clearly indicated the infertility by

saying *Yasya Bijam Na Vindati*.<sup>[45]</sup> The disease *Aticharna* appears to be analogous to vaginal inflammation caused by excessive coitus associated with infertility.<sup>[47]</sup> It can be considered a condition very near to tubal infertility, as any infection, if it leads to infertility; the most common cause is tubal blockage as a sequel of infection. *Charaka* has stated *Vata* as the dominant factor for this condition, which takes it closer to tubal blockage, as the role of *Vata* in causing tubal block has already been discussed. *Paripluta*<sup>[48-50]</sup> — It is a condition very similar to the preliminary stage of tubal blockage, as all its features are suggestive of Pelvic Inflammatory Disease. *Vata* and *Pitta* are considered responsible for this condition, producing features of *Shuna*, *Sparshakshamta*, *Sartineelapitaasrik*, *Shronivankshanaprishthaarti*, *Bastikukshigurutva*, *Jvara*, and so on. The most important feature is dyspareunia described by Sushruta as, '*Gramyadharme Ruja Bhrisham*'.<sup>[49]</sup> Dyspareunia is the peculiar feature of salpingitis (inflammation of fallopian tubes) and tubal blockage is the most common consequence of salpingitis. *Upapluta*<sup>[51,52]</sup> — This *Yonivyapada* refers to the condition of genital tract infection with *Pandu*, *Satoda*, *shveta*, and *Pichhila Srava*, with a dominance of *Kapha* and *Vata*, leading to *Shopha* and *Vedana*. With reference to the earlier description, this is a condition that can generate blockage in the fallopian tubes by *Vatakaphajanya Avarodha*, and also as a consequence of infection. However, *Charaka* has restricted the condition up to *Garbhini* only, so it does not indicate tubal blockage as a sequel directly. Although, as all the *Yonivyapadas* ultimately lead to infertility, it can also lead to secondary infertility. Still the description of *Vagbhata* resembles the condition of PID more, followed by tubal blockage, as it is not confined to *Garbhinis* only. *Vipluta*<sup>[53]</sup> — Sushruta has considered *Vipluta* a disorder characterized by *Nitya Vedana* (continuous pain), and indicated it as a *Vatika* disorder. If infertility is assumed as a complication of the condition, when it is untreated, there can be several pathologies with regard to different types of ovulatory, uterine, and other factors. Tubal blockage, can undoubtedly be one of those pathologies, caused by *Samkocha* (stenosis or narrowing of tubal lumen) due to increased *Rukshatva* of aggravated *Vata*.

Tubal blockage in *Artava Dushti*: Eight types of *Artavadushti* described by Sushruta denote menstrual disorders, but there are several diseases among them that resemble the infective condition of the genital tract. An effort is made to explain the *Artavadushti* as a preliminary stage of tubal blockage.

1) *Pittaja Artava Dushti*<sup>[54-56]</sup> — The *Artava* vitiated by *Pitta* is *Pita*, *Neela*, *Pichhila*, and *Oshachosha*, similar to *Vedana*, *Kunapgandhi*,<sup>[57]</sup> and *Visragandhi* (foul and putrid smell), associated with severe burning sensation at the time of its excretion. *Harita* has defined *Mutrakrichhra* (dysuria) along with other features, and thus it denotes urogenital infection. This *Artavadushti* has been compared with oligomenorrhea associated with infective conditions of reproductive organs, especially chronic pelvic cellulitis.<sup>[58]</sup> Thus, *Pittaja Artava Dushti* is a condition of urogenital infection, which can lead to tubal blockage as a consequence.

2) *Kaphaja Artava Dushti*<sup>[54,55]</sup> — The *Artava* vitiated by *Kapha* is *Shweta* (whitish), *Shleshma Vedana* (itching), *Visragandhi* (Foul smell),<sup>[59]</sup> and *Majjopasamsrishtam* (appears as if mixed with bone marrow). These are similar to features of infection.

Chronic endometritis, endocervicitis, and cervicitis are often characterized by excessive mucoid discharge. This discharge when mixed with menstruation can give the appearance described a little earlier in the text. Thus, it appears that *Kaphaja Artava Dushti* can be described as oligomenorrhea associated with chronic inflammation of reproductive organs, especially chronic endometritis and / or endocervicitis.<sup>[60]</sup>

3) *Putipuyanibha*<sup>[54,61]</sup> — *Putipuya* (putrid and purulent) or *Puya* (purulent) *Artavadushti* is caused by *Pitta* and *Kapha Doshas* in the opinion of Sushruta, while *Vagbhata* considers it to be due to *Rakta* and *Pitta*. Menstrual discharge, with pus or putrid smell is seen in the acute infective condition of the reproductive system. This disorder is said to be incurable. If incurability is considered for the disease, then it may be considered as very severe endometritis leading to pyometra and it may definitely lead to tubal blockage as a consequence.

4) *Mutrapurishagandhi*<sup>[54]</sup> — This *Artavadushti* is said to be caused by all the three *Doshas* and *Artava* smells like urine and feces. It is compared to the formation of a fistula between the reproductive and urinary and G.I. tract, in view of the smell of urine and feces that arises, due to the mixing of these substances with menstrual blood.<sup>[62]</sup> This correlation is appropriate for the description by *Vagbhata*, who states that it is *Mutravitaprabham*, but not for the condition described by Sushruta, as *Artava* mentioned here is said to be odouring like urine and feces only, and its appearance does not resemble them. Another condition comparable to this may be either malignancy or severe and mixed infection of genital tract. Moreover, any type of severe genital tract infection may lead to tubal blockage.

*Asrigadara* and tubal blockage: *Asrigadara* described by all the Acharyas either denotes menorrhagia or menometrorrhagia, and it does not appear to be tubal blockage superficially. However, by taking the underlying pathogenesis into consideration, when an attempt is made to understand the vitiation of the *Doshas* and its possible complications, the tubal block emerges as one of the most probable complications, which can ultimately lead to *Bandhyatva*. *Charaka* has directly indicated the relation between *Shopha* (inflammation) and the *Pradara*, while describing the causative factors of *Nija Shopha*.<sup>[63]</sup> *Pittaja Asrigadara* — *Charaka*<sup>[64]</sup> has mentioned features of discolored *Artava* (menstrual blood) along with *Daha* (burning), *Raga* (reddishness), *Jvara* (fever) and the like, while *Vagbhata*<sup>[65]</sup> has described its similarity with *Grihadhuma* and *Anjana* and has considered it *Visragandhi* or *Matsyagandhi* (musty of fishy smell). Mention of fever, a general symptom by *Charaka*, indicates it to be menorrhagia due to the severe inflammatory condition of the reproductive system.<sup>[66]</sup> Thus, it can be considered as an acute inflammatory disorder, which manifests as menometrorrhagia, but can lead to infertility by complicating as a tubal blockage.

*Kaphaja Asrigadara*<sup>[67]</sup> — This condition is compared with the tubercular endometritis of genital tuberculosis<sup>[68]</sup> on the basis of its association with anorexia (*Aruchi*), cough (*Kasa*), dyspnea (*Shvasa*), and so on, along with menorrhagia. Tubercular endometritis is associated with menorrhagia in the earlier stages, which converts to amenorrhea in the later stages. Apart from these systemic features, most of the local symptoms described in *Kaphaja Asrigadara*, like *Pichhila*, *Panduvarna*, *Guru*, and

*Snigdha Artava* can also be correlated with genital tuberculosis, as involvement of the cervix along with the endometrium can produce mucoid discharge profusely, which can give an appearance of it getting mixed with the *Artava*.

*Sannipataja Asrigdara*<sup>[69]</sup> — In this *Asrigdara*, the clinical features of all the three *Doshas* are present. On the basis of foul smelling (*Durgandham*), multicolored discharges and incurability, it can be correlated to both, the malignant condition as well as severe infection, like pyometra. Association of *Jvara* mentioned by *Charaka* makes the condition resemble an infection. Hence, similar to any other genital infection, it can also lead to tubal blockage.

### Rati-janya Vikara and tubal blockage

Veneral diseases or commonly called Sexually transmitted diseases (STDs) are also considered very important etiological factors that produce tubal blockage. Description of STDs is seen since ancient time as Sushruta has described *Upadamsha* in his literature very well.<sup>[70]</sup> *Yoga Ratnakar*<sup>[71]</sup> and *Dalhana*<sup>[72]</sup> have considered this *Upadamsha* affecting both males and females.

*Upadamsha* is caused by sexual contact and the cardinal feature is said to be the inflammation with or without ulceration (*Kshate akshate va shwayathum upajanayanti*).<sup>[73]</sup> On the basis of presence of inflammation without ulceration, this condition can be correlated to gonorrhea, while it can be compared to Chancroid or lymphogranuloma inguinale, when associated with ulceration. It is classified in five types with different specific features, as *Vataja Upadamsha* — associated with *Parushya*, *Paripota*, and so on;<sup>[74]</sup> *Pittaja Upadamsha* — associated with *Jvara*, *Pakvaodumbara sadrisa shotha* (red swelling), *Tivra Daha* and *Kshipra Paka* (Acute suppuration);<sup>[74]</sup> *Shleshmaja Upadamsha* — associated with *Kathina*, *Kamdumana Shotha* (hard and itchy swelling) along with *Shleshma Vedana*;<sup>[74]</sup> *Raktaja Upadamsha* — associated with *Krishna Sphota* (black blisters resembling meat), along with *Atyarthaasrikapravritti* (excessive bleeding), *Jvara*, *Daha*, and *Shosha* (emaciation),<sup>[74]</sup> and *Sannipataja Upadamsha* — features of all the three *Doshas* with *Avadarana* (cracking of the private part) and *Krimi Pradurbhava* (appearance of maggots).<sup>[74]</sup>

Description of *Vataja* and *Shleshmaja Upadamsha* resembles a chancroid, while *Pittaja* seems to be comparable to gonorrhea, for the prominent feature of suppuration. *Raktaja Upadamsha* resembles lymphogranuloma inguinale. Syphilis cannot be assumed here under any type of *Upadamsha*, because it is never associated with pain, while in *Upadamsha*, painful ulcerations are present. Thus, *Upadamsha* seems to be a broad term, which can incorporate several venereal diseases found in the present era. As gonorrhea is considered one of the most common causative factors of tubal blockage, *Upadamsha* can be assumed as a Sexually Transmitted Disease, which can give rise to tubal block and infertility, with several other complications.

*Jataharini* and tubal blockage: *Jataharini* mentioned by *Kashyapa* seems to be described for women suffering from habitual abortion, repeated still births, and infertility. One *Jataharini* named *Parisruta* is comparable to the chronic infection of genital organs, which may denote infertility caused by the infection. *Kashyapa* has emphasized on the feature of excessive

vaginal discharge (*Abhiksham Sravate Yoni*) and emaciation (*KrishAtmanah*).<sup>[75]</sup> These features denote the condition of chronic infection, most probably tuberculous, which may definitely lead to infertility, by causing tubal blockage.

*Nidana* (Etiological factors): As all the diseases are caused by *Doshas* only. The *Nidanas* that are responsible for vitiating *Doshas* can be considered as the *Samanya* (general) *Nidanas*, while *Nidanas* of those diseases that can complicate into tubal blockage can be considered as *Vishishta* (specific) *Nidanas* of this disease.

### Samanya Nidana (General etiological factors)

#### Vata Vardhaka Nidana<sup>[76,77]</sup>

*Dietary factors*: light food, bitter, pungent, astringent, less quantity, non – unctuous, meals after passage of time.

*Living habits*: excessive coitus, inappropriate therapeutic measures, excessive elimination of *Doshas* and blood, fasting, excess swimming, emaciation, debilitating diseases, uncomfortable bed, product of improper digestion and metabolism, trauma, injury to vital parts, riding over an elephant, camel, horse, or fast moving vehicles, and falling down from the seats on these animals and vehicles, suppression of natural urges, night awakening, Talking with high volume, excess of *Vamana* – *Virechana*, fear, grief, worry, exercise, intercourse.

*Seasonal and diurnal factors*: rainy season, evening, early morning, after meals.

#### Pitta Vardhaka Nidanas<sup>[78]</sup>

*Dietary factors*: pungent, sour, salt, hot, *Vidahi*

*Living habits*: anger

*Seasonal and diurnal factors*: autumn, noon, midnight, during digestion of food

#### Kapha Vardhaka Nidanas<sup>[79]</sup>

*Dietary factors*: sweet, sour, salty, unctuous, not easily digestible, *Abhishyandi*, cold potency

*Living habits*: sedentary lifestyle, indigestion, sleeping in day time, over nutrition, improper *Vamana*

*Seasonal and diurnal factors*: just after meals, spring season, morning time, early night

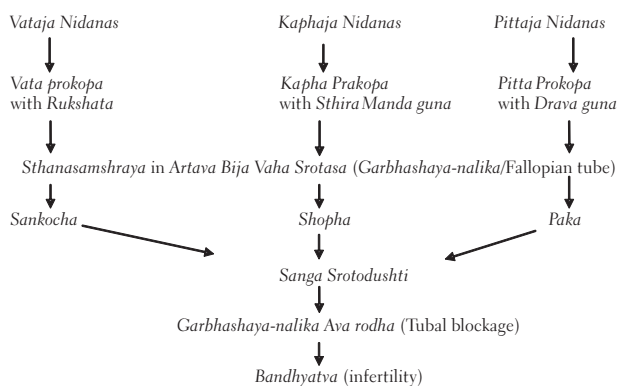
### Vishishta Nidana (Specific etiological factors)

The etiological factors of all those types of *Bandhyatva*, *Yonivyapada*, *Artavadushti*, *Asrigdara*, *Jataharini*, and *Rati-janya* (veneral) diseases can be incorporated in the *Vishista Nidanas* of tubal blockage, which can lead to a block in the fallopian tubes as a consequence.

- i) *Bandhyatva*: *Vedha* of *Artavavaha Srotas* (injury to reproductive system) leads to *Bandhyatva*.<sup>[80]</sup> *Nidanas* of *Sapraja* are not mentioned by *Charaka* with its description. Hence, the *Samanya Nidanas* of *Doshas*, specifically *Vata*, can be considered.<sup>[76]</sup> Moreover, among the six types of *Bandhyatvas*, *Harita* has described *Nidana* of the sixth type only, where he considers coitus before menarche (*Ajatarajsam Strinam Kriyate Yadi Maithunam*) as a causative factor.<sup>[33]</sup>

- ii) *Yonivyapada*: Causative factors of *Pittala Yonivyapada* include excessive intake of pungent, sour, salty, *Kshara*;<sup>[36]</sup> *Sannipatiki Yonivyapada* — consumption of congenial and non-congenial *Rasa*; *Aticharna Yonivyapadas* — excessive coitus,<sup>[44]</sup> making a lady prone to genital tract infection; *Paripluta*-like PID condition by aggravating the *Vata* and *Pitta*, which includes *Pitta Prakriti* with *Pittala* dietary and living habits and withholding of natural urges of sneezing and eructation;<sup>[48]</sup> *Upapluta*-like infective conditions due to *Shleshmavardhaka* dietary and living habits, and withholding the urge for vomiting and inspiration by a *Garbhini*<sup>[51]</sup> or *Vatakaphajanya* dietary and living habits by any woman;<sup>[52]</sup> *Vipluta* – precipitated due to *Vata Vardhaka* dietary and living habits can lead to tubal block by altering the normal function of *Vata*.<sup>[49]</sup>
- iii) *Artavadushti*: Although the causative factors are not described, the dietary articles, with hot (*Ushna*) in potency,<sup>[81]</sup> strong medicine to *Mridukoshthi* after *Snehana* – *Swedana* may act as precipitating factors.<sup>[82]</sup>
- iv) *Asrigdara*: the dietary factors include – very pungent, sour, salty, *guru*, *vidahi*, unctuous substances,<sup>[83]</sup> meat of animals with more fat and living in aquatic areas, *Khichadi*, curd, milk products, alcoholic drinks, incompatible diet, indigestion,<sup>[84-86]</sup> and so on. The factors related to living habits are abortion, excessive coitus, excessive travelling, excessive walking, grief, emaciation, weight lifting, trauma, day sleep.<sup>[84,85]</sup>
- v) *Rati-janya Roga* (STD): *Upadamsha* — the causes of *Upadamsha* mentioned by<sup>[87]</sup> *Sushruta* and *Vagbhata*<sup>[88]</sup> are confined to the male only. *Dalhana*<sup>[89]</sup> and *Yoga Ratnakara*<sup>[90]</sup> (*Yoni Roga*) have indicated the presence of this disease in females too. Hence, causes described by *Sushruta* can be turned toward the females as per the need. These could be interpreted as excessive coitus, coitus with a man having prolonged celibacy, absence of practice of coitus for long time, thick – rooted – deep pubic hair, excessively big or small penis, unwashed penis or washed with dirty water, use of artificial penis made with iron etc.,<sup>[91]</sup> not cleaning private parts after coitus, toxins of insects, coitus with animals, ulceration with nails or teeth, trauma with hands, and so on.
- vi) *Parisruta Jataharini*: Different types of *Papakarmas* (sins) are considered the causes of this disease entity.<sup>[92]</sup>

**Schema showing Samprapti (Pathogenesis) of tubal blockage-induced infertility in Ayurveda**



**Samprapti Ghataka**

Dosha	Vatapradhana Tridosha
Dushya	Rasa, Rakta, Artava
Agni	Dhatvagni
Srotasa	Artavavaha (Artava-Bija-Vaha)
Udbhavasthana	Amapakvashaya
Srotodushti	Sanga
Vyaktisthana	Garbhashaya
Avayava	Garbhashaya-nalika
Roga Vinishchaya	Garbhashaya-nalika-Avarodha
Sadhyasadhyata	Krichhrasadhya

**Bandhyatva (Tubal blockage) as per Dasha Roganika**

After deciding that diseases can be innumerable on several basis, *Charaka* has classified all the diseases as *Dasha Roganika*,<sup>[93]</sup> based on five factors: namely, *Prabhava* (*Sadhya* – *Asadhya*), *Bala* (*Mridu* – *Daruna*), *Adhishthana* (*Sharira* – *Manas*), *Nimitta* (*Syadhatuvaishamyanimitta* / *Nija* – *Agantuja*), and *Ashaya* (*Amashaya* – *Pakvashaya*). Tubal blockage can be taken as *Krichhrasadhya vyadhi*, although there may be some variations as per the underlying pathology. On the basis of *Bala*, tubal blockage can be considered as the *Daruna bala* disease, as it is tedious to treat it. *Adhishthana* of tubal blockage is undoubtedly *Sharira*, as *Doshas* make *Sthanasamshraya* in the fallopian tubes, which are the organs of the body itself. It is not appropriate to put the tubal blockage in one category on the basis of *Nimitta*. Tubal block can be considered as a *Vyadhi* caused by *Nija* and *Agantuja*, both types of etiological factors. As told by *Kashyapa*, *Bandhyatva* is *Vata NanAtmaja Vikara*, and whenever the factor behind this *Vatajanya Bandhyatva* is a tubal block, it is definitely a *Nija Vyadhi*. It is also said that, although the PID is the most common causative factor of tubal blockage, yet in 60% of the cases, a history of PID is not found. In all other cases, where history of some genital infection is found, or history of a disease seems to be similar to a gynecological disorder (mimicking reproductive tract infection) described in the classics, the tubal block can be considered as *Agantuja*. *Utthana* of *Ashaya* is *Pakvashaya*, because it is a *Vata* dominant disorder.

*Nijaroga* that may cause tubal blockage

Doshas	Roga	Nidanans	Vikriti	Nimitta
Vata	<i>Aticharna</i>	<i>Ativyavaya</i>	<i>Shopha</i>	<i>Agantuja</i>
	<i>Vipluta</i> ( <i>Sushruta</i> )	<i>Vataja Achara</i>	<i>Sankocha</i>	<i>Nija</i>
Pitta	<i>Pittala</i>	<i>Pittaja Ahara</i>	<i>Paka</i>	<i>Nija</i>
	<i>Yonivyapada</i>	<i>Pittaja Ahara</i>	<i>Paka</i>	<i>Nija</i>
	<i>Artavadushti</i>	<i>Vihara</i>	<i>Paka</i>	<i>Nija</i>
	<i>Asrigdara</i>	<i>Pittaja Ahara</i>	<i>Paka</i>	<i>Nija</i>
Kapha	<i>Kaphaja</i>	<i>Kaphaja Ahara</i>	<i>Shopha</i>	<i>Nija</i>
	<i>Artava Dushti</i>	<i>Vihara</i>	<i>Shopha</i>	<i>Nija</i>
	<i>Asrigdara</i>	<i>Kaphaja Ahara</i>	<i>Shopha</i>	<i>Nija</i>

Contd...

Vata Pitta Paripluta	Vega Dharana	Shopha - Nija		
	(Kshavathu Paka Udgara)			
Vata Kapha	Upapluta	Kaphavardhaka Ahara – Vihara	Shopha	Nija
		Chhardi Nishwas Nigraha		
Pitta Kapha	Puti Puya Nibha	Pitta – Kapha vardhaka Ahara - Vihara	Paka - Puya	Nija
Tridoshaja	Tridoshaja Yonivyapada	Tridoshavardhaka Ahara – Vihara	Shopha - Paka	Nija
	Mutrapurishagandhi	Tridoshavardhaka Ahara – Vihara	Shopha - Paka	Nija
	Artavadushti			
	Sannipataja	Tridoshavardhaka Ahara – Vihara	Shopha - Paka	Nija
	Asrigdara			

### Agantuja Roga which may cause tubal blockage

*Artava-Vaha-srotas Vedha Janya Vyadhi*: This condition denotes *Agantuja Nimitta Vyadhi*, which is generated by salpingo-oophoritis after trauma to the fallopian tube and ovary.

*Sapraja*: This condition seems to be *Agantuja Nimittaja Vyadhi*, as secondary infertility is generally the consequence of trauma or post-partum infection. That may be the reason why *Doshas* and *Nidanas* are not described for this condition.

*Kakabandhya*: The same explanation can be given for the secondary infertility, as described by Harita.

*Balakshaya*: This condition seems to be genital tuberculosis caused by bacteria. It can also be understood as *Agantuja Nimittaja Vyadhi*, led by a tubal blockage.

*Garbhasankocha*: This is infertility caused by coitus in an immature girl caused by tubal and cervical stenosis, thus, an *Agantuja Nimittaja Vyadhi*.

*Upadamsha*: It denotes venereal diseases caused by improper coitus. It is *Agantuja Vyadhi*, which may definitely lead to tubal infertility.

*Parisruta*: Factors mentioned for all the *Jataharinis* mainly denote contagious and infectious etiological factors. Thus, *Parisruta* described by *Kashyapa* is definitely an *Agantuja Vyadhi*, which is generated by the influence of *Daiva Karanani* (idiopathic factors).

As per the above discussion, it apparently looks like the tubal blockage assumed in the description of *Bandhyatva* is *Agantuja* (external cause), while the tubal blockage caused as a complication of various *Shopha – Paka janita* gynecological disorders is *Nija* (endogenous). However, it is not that peculiar. Actually, a tubal block is a complicated condition caused by both *Nija* and *Agantuja* causative factors. *Nija Hetu Sevana* creates lower body immunity and aggravation of *Doshas*, while *Agantuja Hetus* causes vitiation of the *Doshas*. These vitiated *Doshas* takes *Sthanasanshraya* in the fallopian tubes and cause tubal blockage followed by infertility.

### Conclusion

Thus, the fallopian tube is the *Kshetra* of *Garbhadhana* and is quite near to the *Artavavaha (Artava-Bija-Vaha) Srotas*, as it carries the gametes before and the zygote after fertilization. Although, *Bandhyatva* caused by fallopian tube blockage is not mentioned in *Ayurveda* directly, it can be understood by collecting all the disorders, where it can be assumed to be either an underlying cause (some types of *Bandhyatva* and *Jataharini*) as a complication (some *Yonivyapada*, *Artavadushti*, *Asrigdara*, *Rati-janya Vikara*). Tubal blockage can be understood in terms of *Prakriti*, *Adhishthana*, *Linga*, and *Aayatana*, as advocated by *Charaka*. *Bandhyatva* caused by tubal block is a *Krichhrasadhya*, *Pakvashayottha Vyadhi* with *Daruna Bala*, and finds *Adhishthana* in the *Sharira* and can be caused by both the *Nija* as well as the *Agantuja* etiological factors. It seems to be a *Vata* dominated *Tridoshaja Vyadhi*, where *Kapha* can be another dominant *Dosha*. Hence, local instillation by Intrauterine *Uttar Basti* of *Vata Kaphashamaka* and *Tridoshaghna* drugs with *Sukshma*, *Sara*, *Katu*, *Ushna*, and *Pramathi* properties can be helpful to remove the blockage and to restore the tubal functions.

### Acknowledgment

The authors are very grateful to Prof. H. M. Chandola, Professor of Kaya Chikitsa and Ex. Dean, I.P.G.T. R.A., G. A. U. for his valuable guidance, precious support, and priceless blessings showered on each and every step, right from the commencement.

### References

1. Singh RH. Exploring quantum logic in *Ayurveda* with special reference to *Srotovijnana of Ayurveda*, AYU, Vol. 30, No. 4, (Oct. – Dec.), 2009.
2. Shastry Ambikadutta, Sushruta Samhita, *Ayurveda-Tattva-Sharira* Sthana 9/22, Samdipika Hindi Commentry by Chaukhambha Sanskrit Sanstha, Varanasi: 2006.
3. Tivari PV. *Ayurvediya Prasuti-Tantra and Stri-Roga*. 2<sup>nd</sup> ed., Vol. 1. Varanasi: Chaukhambha Orientalia; 1999. p. 14.
4. Ghanekar DB. *Ayurveda Rahasya Dipika Vyakhya of Sushruta Samhita Sharira*. 13<sup>th</sup> ed. New Delhi: Meharchand Lakshmandas Publication; 1998. p. 243-4.
5. Shaw. In: Padubidri VG, Shirish N, editors. *Shaw's Textbook of gynaecology*. 13<sup>th</sup> ed. Daftary, Elsevier; 2004. p. 208.
6. Joshi NG. *Ayurvedic concepts of gynaecology*. 2<sup>nd</sup> ed. Chaukhamba Sanskrit Pratishthana; 1999. p. 7-8.
7. Leonardo RA. *History of Gynaecology*. Newyork: Newyork froben Press; 1944. p. 40.
8. Tripathi B. *Deepika Vyakhya, Sharangdhara Samhita, Chaukhamba Surabharati Prakashana*; 2007. Poorva Khanda 5/14.
9. *Ibid*, *Ayurvedic Concepts of Gynaecology*, review.
10. Shastry K, Chaturvedi G. *Vidyotini Vyakhya, Charaka Samhita, Chaukhamba Bharati Academy*; 2005. Ch. Su. 20/3.
11. Chakrapani commentary on *Charaka Samhita, Ayurveda Dipika Vyakhya, Chaukhamba Samskrita Samsthan*; 1984. Ch. Su. 20/3.
12. *Ibid*, *Vidyotini Vyakhya, Ch. Su. 20/9*.
13. *Ibid*, *Ayurveda-Tatva-Sandipika Vyakhya, Su. Su. 24/9*.
14. Sharma H. *Vidyotini Hindi commentary, Kashyapa Samhita. Varanasi: Chaukhamba Sanskrit Sansthan*; 2009. Kash. Su. 27/29.
15. *Ibid*, *Vidyotini Vyakhya, Ch. Su. 18/49*.
16. *Ibid*, *Vidyotini vyakhya, Ch. Su. 17/116*.
17. *Ibid*, *Vidyotini Vyakhya, Ch. Su. 12/7/2*.
18. *Ibid*, *Chak. Commentary on Ch. Su. 12/8*.
19. *Ibid*, *Vidyotini Vyakhya, Kash. Su. 27/29*.

20. Ibid, Vidyotini Vyakhya, Kash. Su. 27/30-1.
21. Krishnamurthy KH. Bhel Samhita English commentary, Varanasi, Sharir Sthan: Chaukhamba Vishvabharti; 2000. 2/7.
22. Ibid, Vidyotini Vyakhya, Ch. Su. 12/4.
23. Ibid, Chakrapani commentary, Ch. Su. 12/4.
24. Ibid, Vidyotini Vyakhya, Ch. Su. 1/6.
25. Ayurveda-Tatva-Sandipika Vyakhya, Su. Su. 17/12.
26. Ibid, Ayurvedic Concepts of Gynaecology. p. 99.
27. Ibid, Vidyotini Vyakhya, Ch. Su. 1/60.
28. Ibid, Ayurveda-Tatva-Sandipika Vyakhya, Su. Sh. 2/33.
29. Ibid, Ayurveda-Rahasya-Dipika Vyakhya, Su. Sh. 2/34.
30. Ibid, Vidyotini Vyakhya, Ch. Sh. 2/6.
31. Ibid, Vidyotini Vyakhya, Ch. Sh. 2/5.
32. Ibid, Chak. Commentary, Ch. Sh. 2/5.
33. Tripathi H. 'Hari' Vyakhya, Harita Samhita, Varanasi: Chaukhamba Krishnadas Academy; 2005. H. S. Tritiya Sthan, 48/5, 6.
34. Ibid, Vidyotini Vyakhya, Ch. Chi. 30/37, 38.
35. Gupta KA. Vidyoyini Tika, Ashtamg Hridaya, Varanasi: Chaukhamba Prakashan; 2007. Uttar Sthan, 33/52.
36. Ibid, Vidyotini Vyakhya, Ch. Chi. 30/11-2.
37. Ibid, Ayurveda-Tatva-Sandipika Vyakhya, Su. U. 38/14.
38. Ibid, Vidyotini Tika, A. H. U. 33/42-3.
39. Ibid, Ayurvediya Prasuti Tantra and Stri Roga, p. 17.
40. Ibid, Vidyotini Vyakhya, Ch. Chi. 30/14.
41. Ibid, Ayurveda-Rahasya-Sandipika Vyakhya, Su. U. 38/19.
42. Tripathi RD. Saroj commentary, Ashtanga Samgraha, Delhi: Chaukhamba Sanskrit Pratishthan; 1999. Uttar Tanta 38/52.
43. Ibid, Ayurvediya Prasuti Tantra and Stri Roga, p. 20.
44. Ibid, Vidyotini Vyakhya, Ch. Chi. 30/19.
45. Ibid, Ayurvediya-Tatva-Sandipika Vyakhya, Su. U. 38/16-7.
46. Ibid, Vidyotini Tika, A. H. U. 33/31.
47. Ibid, Ayurvediya Prasuti Tantra and Stri Roga, p. 28.
48. Ibid, Vidyotini Vyakhya, Ch. Chi. 30/23-4.
49. Ibid, Ayurveda-Tatva-Sandipika Vyakhya, Su. U. 38/10-1.
50. Ibid, Vidyotini Tika, A. H. U. 33/46-8.
51. Ibid, Vidyotini Vyakhya, Ch. Chi. 30/21-2.
52. Ibid, Vidyotini Tika, A. H. U. 33/48-9.
53. Ibid, Ayurveda-Tatva-Sandipika Vyakhya, Su. U. 38/10-1.
54. Ibid, Ayurveda-Tatva-Sandipika Vyakhya, Su. Su. 2/4.
55. Ibid, Saroj Hindi Commentary, A. S. Sh. 1/24.
56. Ibid, 'Hari' Vyakhya, H. S. Tri. Sth. 48/17.
57. Acharya D. Nibandhasamgraha commentary on Sushruta Samhita. Varanasi: Chowkhamba Krishnadas Academy; 2004. Su. Sh. 2/4.
58. Ibid, Ayurvediya Prasutitantra Evam Striroga, p. 144.
59. Ibid, Dalhana Commentary, Su. Sh. 2/4.
60. Ibid, Ayurvediya Prasutitantra Evam Striroga, p. 145.
61. Ibid, Vidyotini Tika, A. H. Sh. 1/11.
62. Ibid, Ayurvediya Prasutitantra Evam Striroga, p. 148.
63. Ibid, Vidyotini Vyakhya, Ch. Su. 18/6.
64. Ibid, Vidyotini Vyakhya, Ch. Chi. 30/214-6.
65. Ibid, Saroj Vyakhya, A. S. Su. 36/19.
66. Ibid, Ayurvediya Prasutitantra Evam Striroga, p. 189.
67. Ibid, Vidyotini Vyakhya, Ch. Ch. 30/217-9.
68. Ibid, Ayurvediya Prasutitantra Evam Striroga, p. 191.
69. Ibid, Vidyotini Vyakhya, Ch. Chi. 30/220-4.
70. Ibid, Ayurveda-Tatva-Dipika Vyakhya, Su. Ni. 12.
71. Shetty M, Babu S. Yoga Ratnakar English translation, Vol. 2. Chaukhamba Sanskrit series, Varanasi: 2005. Upadamsha Nidana .
72. Ibid, Dalhana commentary, Su. Ni. 12/9.
73. Ibid, Ayurveda-Tatva-Sandipika Vyakhya, Su. Ni. 12/7.
74. Ibid, Ayurveda-Tatva-Sandipika Vyakhya, Su. Ni. 12/9.
75. Ibid, Vidyotini Hindi commentary, Kash. Revati Kalpa/35.
76. Ibid, Vidyotini Vyakhya, Ch. Chi. 28/15-8.
77. Ibid, Vidyotini Tika, A. H. Ni. 1/14-5.
78. Ibid, Vidyotini Tika, A. H. Ni. 1/16.
79. Ibid, Vidyotini Tika, A. H. Ni. 1/17-8.
80. Ibid, Ayurveda-Tatva-Sandipika Vyakhya, Su. Sh. 9/12.
81. Ibid, Vidyotini Hindi Vyakhya, Kash. Kal. 7/32.
82. Ibid, Vidyotini Hindi Vyakhya, Kash. Si. 3/20.
83. Ibid, Vidyotini Vyakhya, Ch. Chi. 30/205-6.
84. Madhavanidanam, Madhavacharya, 'Madhukosha' Vyakhya by Acharya Yadunandana Upadhyaya. Varanasi: Chaukhamba Prakashan; 2007. 61/1.
85. Bhavaprakasha, 'Vidyotini' commentary by Bramha Shankar Mishra. Chaukhamba Sanskrit Academy; 2002. B. P. Chi. 68/1, 2.
86. Ibid, Yoga Ratnakar English Translation, Vol. 2, Stri Roga.
87. Ibid, Ayurvediya-Tatva-Sandipika Vyakhya, Su. Ni. 12/7.
88. Ibid, Vidyotini Vyakhya, A. H. U. 33.
89. Ibid, Dalhana, Su. Ni. 12/7.
90. Ibid, Yoga Ratnakar English translation, Vol. 2, Upadamsha Nidana.
91. Ibid, Ayurvediya Prasutitantra Evam Striroga, p. 325.
92. Ibid, Vidyotini Hindi Tika, Kashyapa Revati Kalpa.
93. Ibid, Vidyotini vyakhya, Ch. Vi. 6/3.

## हिन्दी सारांश

### ट्यूबल ब्लॉकेज - एक आयुर्वेदिक अध्ययन

कामायनी शुक्ला (उपाध्याय), कौमदी करुणागोडा, लक्ष्मीप्रिया देई

ट्यूबल ब्लॉकेज बन्ध्यत्व के लिये उत्तरदायी महत्त्वपूर्ण कारणों में से एक है। यह स्थिति आयुर्वेद ग्रन्थों में वर्णित नहीं है। इस अध्ययन में इस व्याधि को आयुर्वेदिक सिद्धान्तों पर समझने का प्रयास किया गया है। फ्रैलोपियन ट्यूब्स का आर्तववह स्रोतस से सामन्जस्य करते हुये इसमें संग स्रोतोदुष्टि को समझने के साथ ही इसे प्रकृति अधिष्ठान लिंग आयतन के आधार पर विवेचित किया गया है। इसके अतिरिक्त इस रोग में सभी तीन दोषों की भूमिका को जानने के साथ ही इसका दश रोगानीक के अनुसार वर्गीकरण भी किया गया है।