Infertility caused by tubal blockage: An ayurvedic appraisal

Kamayani Shukla (Upadhyaya), Kaumadi Karunagoda¹, 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, ‘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 Srotadoshti of this Srotas. Charak’s opinion that the diseases are innumerable and newly discovered ones should be understood in terms of Prakriti, Adhishtana, LINGA, and Aayatana, is followed, to describe this disease. An effort has been made to evaluate the role of all the three Dasas in producing blockage, with classification of the disease done as per the Dasha Raganika.

Key words: Artavadiushi, Asrigdora, Bandhyatva, Rati-janya Vikara, Tubal blockage, Yoniyyapada, 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 Aaptopadesha, 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, Dhatu, 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 Srotovigya encompasses all ranges of the structural and functional units from the grossest to the subtletest, 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.[1]

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.[2] These are two in number having roots in the Garbhshaya and Artavavahi Dhamans, injuries to which causes Bandhyatva (infertility), Maithunasashmintha (dyspareunia), and Artavanasha (anovulation or amenorrhoea). 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.[3] 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 Sushrutas 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%\(^1\) 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.\(^2\) 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.\(^3\) One more indirect description of the fallopian tube can be taken as the extra Ashaya in females described by Sharangadharacharya, where he mentions the Garbhahashya as Dhara and the extra Ashaya in females.\(^4\) Garbhahashya as a whole is considered as the site of conception, and is called Dhara. The fallopian tube being a part of the uterus (Garbhahashya) 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,\(^5\) 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 Rajavavaha Srotas.\(^6\) 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 vitiatio of Doshas. Thus, an approach can be developed toward tubal infertility by finding out the Bandhyatva based on Nidanas and Samprepas. 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).\(^7\) 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 (Sannikrishtha 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.\(^8,9\) Vitiatio of Vata can be considered as the most important factor for tubal infertility since it is responsible for Dhatugati;\(^10\) Cheshta\(^11\) and Garbhakriti.\(^12\) Chakrapani has considered Vata the Nimitta Karana of Garbha by saying “Bhetta Karta; Elam Cha Shair Utpatiti Kale”\(^13\). Acharya Kashyapa has mentioned Bandhyatva under the Nanatamaja Vikaras of Vata\(^14\) and again he described some features to understand the diseases not indicated in the classics and stated that any type of Samkocha is caused by Vata.\(^15\) This Samkocha is one of the reasons of Tubal block and ultimately infertility. Bhela also considers Vata responsible for Bandhyatva, “Iha Narchhathi Garbham Stri Vatensapahata tatha”.\(^16\) Vitiatio of Vata in tubal blockage causing infertility can be considered by its Raksha, Daruna and Khara Ganas.\(^17\) Chakrapani has stated Darunatva responsible for Kathiyana\(^18\) and thus, causing sclerosis of tubes, while Rakshatva 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 Shoshojanaka properties. If Kapha vitiates due to its Sthira\(^19\) Guna, it can lead to blockage. Sushruta has stated that Paya (suppuration)\(^20\) is not possible without Kapha, while Vagbhata considers Kapha responsible for Shopha (inflammation). These Shopha and Paya 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.\(^21\) Role of Pitta in tubal blockage can not be totally neglected, as it is said to be responsible for Paka.\(^22\) Most of the tubal blockages are the consequence of urogenital infection and thus, vitiatio of Pitta can be considered here. Pitta increased with its Drava gund\(^23\) 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 vitiatio of any specific Dosha, rather sometimes an interplay of multiple Doshas and sometimes the sequel of vitiatio of single Dosha. Adhishthana (Dushya; seat) — Garbhahashya 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 Garbhahashya (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) Bijas (gametes).\(^24\) 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 Garbhahashya or Garbhashaya as the Kshetra for Garbhadhana, although he has also taken it as Stre in a broader sense.\(^25\) 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 vitiatio 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.\(^26\) 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 Sharangdhar. 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 Baja 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 *Yoni Vyapada* 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:[11] (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* — 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.[11] However, Harita has defined *Bandhyatva* as failure to get a child rather than conception, as he has included *Garbhhasravi* (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) *Garbhhasravi* — 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 *Garbhasamkocha* caused by coitus with a girl before menarche (*Ajatarajasa*).

Among all types of *Bandhyatva* described by Harita, *Garbhhasravi* 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* and *Vagbhata* have considered infertility as a complication of all the *Yoni Vyapadas*. Thus, tubal blockage can be taken as a complication of those *Yoni Vyapadas*, which are comparable to PID, on the basis of their symptomatology. These *Yoni Vyapadas* are described herewith: *Paittika* or *Pittala* — Almost all Acharyas have described the features of genital tract infection by mentioning *Daha*, *Paka*, *Jvara*, *Neela* — *Pita* — *Asita Artava*, *Puti gandha*, and *Bhirshoshnakunap* *Srava*-like features. On the basis of these symptoms, this *Yoni Vyapada* is compared with the infection of reproductive organs.[9] *Tridoshaja* or *Samipatik* — This *Yoni vyapada* is considered as an acute infectious 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,[9] on account of its characters such as *Dahashulakta* Shwetapichilavahini (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* — 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.⁴5 The disease Aticharna appears to be analogous to vaginal inflammation caused by excessive coitus associated with infertility.⁴7 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. Paripulota⁴⁶⁵⁰ — 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, Sparshaskhamta, Sartineelapitaasrik, Shronivankshanaprishthaart, Bastikukshigurutva, Jvara, and so on. The most important feature is dyspareunia described by Sushruta as, „Gramuvadharmone Raja Bharsham”.⁴⁹ Dyspareunia is the peculiar feature of salpingitis (inflammation of fallopian tubes) and tubal blockage is the most common consequence of salpingitis. Upapulota⁵¹⁵² — This Yoniyapada refers to the condition of genital tract infection with Pandu, Satoda, shrieta, and Pichhila Srava, with a dominance of Kaptha 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 Yoniyapatadas ultimately lead to infertility, it can also lead to secondary infertility. Still the description of Vaghbhatta resembles the condition of PID more, followed by tubal blockage, as it is not confined to Garbhinius only.Vipulota⁵³ — Sushruta has considered Vipulota 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 Rakshatva 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 Dushti⁴⁶⁴⁵⁰ — The Artava vitiated by Pitta is Pita, Neela, Pichhila, and Oshachosha, similar to Vedana, Kunagandhi,⁵⁷ and Visragandhi (foul and putrid smell), associated with severe burning sensation at the time of its excretion. Hanita has defined Mutrakrichih (disuria) 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.⁵⁹ Thus, Pittaja Artava Dushti is a condition of urogenital infection, which can lead to tubal blockage as a consequence.

2) Kaphaja Artava Dushti⁴⁶⁴⁵⁵ — The Artava vitiated by Kapha is Shveta (whiteish), Shleshma Vedana (itching), Visragandhi (Foul smell),⁵⁹ and Majopasamsrishtam (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.⁵⁹

3) Putipuyanibha⁴⁶⁶¹ — Putipuya (purulent and purulent) or Puya (purulent) Artavadushti is caused by Pitta and Kaptha Doshas in the opinion of Sushruta, while Vaghbhatta 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) Mutrapurishagandhi⁵⁴ — 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.⁶² This correlation is appropriate for the description by Vaghbhatta, who states that it is Mutraviraphaham, but not for the condition described by Sushruta, as Artava mentioned here is said to be odorating 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 the 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 menstrualorrhagia, 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 Bandhayatva. Charaka has directly indicated the relation between Shopha (inflammation) and the Pradara, while describing the causative factors of Nija Shopaha.⁶³Pittaja Asrigadara — Charaka⁵⁶ has mentioned features of discolored Artava (menstrual blood) along with Daha (burning), Raga (reddishness), Jvara (fever) and the like, while Vaghbhatta⁶⁵ has described its similarity with Grihadhuma and Anjana and has considered it Visragandhi or Matsuyagandhi (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.⁶⁶ 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 Asrigadara⁶⁷ — This condition is compared with the tubercular endometritis of genital tuberculosis⁶⁸ 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, Panduvanana, 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.

Samnipataja Asrigdara[69] — In this Asrigdara, the clinical features of all the three Doshas are present. On the basis of foul smelling (Durgandhham), multicolored discharges and incurableness, 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
Venerable 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 Upadamsa in his literature very well.[70] Yoga Ratnakar[71] and Dalhana[72] have considered this Upadamsa affecting both males and females.

Upadamsa is caused by sexual contact and the cardinal feature is said to be the inflammation with or without ulceration (Kshate akshate va shwayathum upajanyanitvam). [71]
On the basis of presence of inflammation without ulceration, this condition can be correlated to gonorrhea, while it can be compared to Chanocroid or lymphogranuloma inguinale, when associated with ulceration. It is classified in five types with different specific features, as Vataja Upadamsa — associated with Parushya, Parispotra, and so on;[74] Pittaja Upadamsa — associated with Jvara, Palavadambara sadrisha shotha (red swelling), Tirvra Daha and Kshiija Paka (Acute suppuration);[74] Shleshmaja Upadamsa — associated with Kathina, Kamalamana Shotha (hard and itchy swelling) along with Shleshma Vedana;[74] Raktaja Upadamsa — associated with Krishna Sphota (black blisters resembling meat), along with Atyarthaasrikapraavritti (excessive bleeding), Jvara, Daha, and Shosha (emaciation).[74] and Samnipataja Upadamsa — features of all the three Doshas with Avadaran (cracking of the private part) and Krimi Pradurbhava (appearance of maggots).[74]
Description of Vataja and Shleshmaja Upadamsa resembles a chancreoid, while Pittaja seems to be comparable to gonorrhea, for the prominent feature of suppuration. Raktaja Upadamsa resembles lymphogranuloma inguinale. Syphilis is not assumed here under any type of Upadamsa, because it is never associated with pain, while in Upadamsa, painful ulcerations are present. Thus, Upadamsa seems to be a broad term, which can incorporate several venerable diseases found in the present era. As gonorrhea is considered one of the most common causative factors of tubal blockage, Upadamsa 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 Parisrata 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). [75] 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 Niidana[76,77]
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[78]
Dietary factors: pungent, sour, salt, hot, Vidahi
Living habits: anger
Seasonal and diurnal factors: autumn, noon, midnight, during digestion of food

Kapha Vardhaka Nidanas[79]
Dietary factors: sweet, sour, salty, unctuous, not easily digestible, Aghishyandi, 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, Yoniipapa, Artavadushti, Asrigdara, Jataharini, and Rati-janya (veneral) diseases can be incorporated in the Vishishta 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.[80] Nidanas of Saptraqa are not mentioned by Charaka with its description. Hence, the Samanya Nidanas of Doshas, specifically Vata, can be considered.[76] Moreover, among the six types of Bandhyatvas, Harita has described Nidana of the sixth type only, where he considers coitus before menarche (Ajaatarajyasam Strinam Kriyate Yadi Maithunam) as a causative factor[73].
ii) Yonirayapada: Causative factors of Pittala Yonirayapada include excessive intake of pungent, sour, salty, Kshara,\[96\] Sanmipatik Yonirayapada—consumption of congenial and non-congenial Rasa; Aticharna Yonirayapadas—excessive coitus,\[94\] making a lady prone to genital tract infection; Paripultula-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;\[98\] Umapuluta-like infectious diseases due to Shleshmavardhaka dietary and living habits, and withholding the urge for vomiting and inspiration by a Garbhini\[93\] or Vatakaphajanya dietary and living habits by any woman;\[92\] Vipuluta—precipitated due to Vata Vardhaka dietary and living habits can lead to tubal block by altering the normal function of Vata.\[99\]

iii) Artavaadusthi: Although the causative factors are not described, the dietary articles, with hot (Ushna in potency),\[81\] strong medicine to Mridukoshti after Snehana—Swedana may act as precipitating factors.\[92\]

iv) Asrirdara: the dietary factors include—very pungent, sour, salty, gur, vidhi, unctuous substances,\[80\] meait of animals with more fat and living in aquatic areas, Khichadi, curd, milk products, alcoholic drinks, incompatible diet, indigestion,\[84-86\] and so on. The factors related to living habits are abortion, excessive coitus, excessive travelling, excessive walking, grief, emaciation, weight lifting, trauma, day sleep.\[84-86\]

v) Rattijanya Roga (STD): Upadamsa— the causes of Upadamsa mentioned by Sushruta and Vagbhata\[80\] are confined to the male only. Dalhana\[90\] and Yoga Ratnakara\[90\] (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 of pubic hair, excessively big or small penis, unwashed penis, practice of coitus for long time, thick—rooted—deep pubic hair. 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 of pubic hair.,\[91\] 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 Jataharnin: Different types of Papakarmas (sins) are considered the causes of this disease entity.\[92\]

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

---

**Samprapti Ghatake**

| Dosha       | Vatapradhana Tridosha | Rasa, Rakta, Artava |
|-------------|-----------------------|---------------------|
| Dushya      | Dhatvagni             |                     |
| Agni        | Artavavaha(Artava-Bija-Vaha) | Amapakvakshaya |
| Srotasana   | Sanga                 |                     |
| Udghavasthana | Garbhshaya          |                     |
| Srotadushti | Vyaktishana           |                     |
| Vyaktyathan | Avayava               |                     |
| Roga Vinishchaya | Garbhshaya-nalika     |                     |
| Sadhyasadhyata | Krihhrasaddhy |                     |

**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,\[95\] based on five factors: , namely, Prabhava (Sadhya–Asadhya), Bala (Mridu–Daruna), Adhishthana (Sharira–Manas), Nimitta (Swadhatuvaishamyanimitta / Niya–Agantuja), and Ashaya (Amashaya–Pakvashaya). Tubal blockage can be taken as Krihhrasaddhyatva, 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 Vyadh on caused by Niya and Agantuja, both types of etiological factors. As told by Kashyapa, Bandhyatva is Vata Nadiavaya Vikara, and whenever the factor behind this Vatakajanya Bandhyatva is a tubal block, it is definitely a Niya Vyadh. 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 gynecological 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. Uthana of Ashaya is Pakvashaya, because it is a Vata dominant disorder.

Nijaroja that may cause tubal blockage

---

| Doshas | Roga        | Nidanas       | Vikriti                  | Nimitta               |
|--------|-------------|---------------|-------------------------|-----------------------|
| Vata   | Aticharna   | Ativyavaya    | Shopha                  | Agantuja              |
|        | Vipuluta (Sushruta) | Vataja       | Sankocha               | Niya                  |
| Pitta  | Pittala     | Pittaja Ahara | Paka                   | Niya                  |
|        | Yoniriyapada | Pittaja Ahara | Paka                   | Niya                  |
|        | Artavadushti | Artava Ahara  | Paka                   | Niya                  |
|        | Pittaja     | Pittaja Ahara | Paka                   | Niya                  |
|        | Asrigdara   | Artava Dushi  | Paka                   | Niya                  |
| Kapha  | Kaphaja     | Kaphaja Ahara | Paka                   | Niya                  |
|        | Artava Dushi | Vihara         |                        |                       |
|        | Asrigdara   | Kaphaja Ahara | Shopha                 | Niya                  |

Contd...
Agantuja Roga which may cause tubal blockage

Arata-Vaha-srota’s 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.

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

Upadamsa: 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, Paripatra 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 (endoogenous). 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 take 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 Artavavah (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 Yoniyapada, Artavadusha, Asrigadra, Rati-yanja 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, Panyakshavatthu Vyadhi with Daruna Bala, and finds Adhishthina 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 Intruterine Uttar Basti of Vata Kaphashamaka and Tridoshagha drugs with Sukshma, Sara, Katu, Ushna, and Pramathth 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. Shastrty Ambikadutta, Sushruta Samhita, Ayurvedo-Tattva-Shironi Sthana 9/22, Samipdipa Hindi Commentary by Chaukhamba Sanskrit Sanstrik Sansan, Varanasi: 2006.
3. Tvariy PV. Ayurvediya Prasuti-Tantra and Stri-Rogyad. 2nd ed., Vol. 1. Varanasi: Chaukhamba Orientalia; 1999. p. 7-8.
4. Joshi NG. Ayurvedic concepts of gynaecology. 2nd ed. Chaukhamba Sanskrit Pratishth; 1999. p. 40.
हिंदी सारांश

ट्यूबल ब्लॉकेज - एक आयुर्विदिक अवैधय

कामाक्षी व्युत्क्रम (उपायाय), कौमारी कुरणागो, अक्षमिम्ब्रिया देवी

ट्यूबल ब्लॉकेज कब्जक के लिये उपलब्ध किए महत्वपूर्ण कारणों में से एक है। यह स्थिति आयुर्विद में वर्णित नहीं है। इस अवैधय में इस व्यक्ति को आयुर्विदिक सिद्धांतों पर समझने का प्रयास किया गया है। तीजोधि ट्यूबल का ात्मविहार से समाप्त होते ही इसमें संग्रह और उपचार को समझने के साथ ही इसकी प्रकृति अवधारणा लिख आयुर्विद के आधार पर विविध तरीकों द्वारा अर्थात् इसके अंतर्गत इस रोग में सभी तीन दोषों की भूमिका को जानने के साथ ही इसका दूसरा रोगानुमान के अनुसार वर्गीकरण भी किया गया है।