

## MANAGEMENT OF HYDROSALPINX THROUGH AYURVEDIC INTERVENTIONS - A CASE STUDY.

Sudha Dansana<sup>1</sup>, Dinesh Kumar Hota<sup>2</sup>, Swetasmita Sahu<sup>3</sup>

<sup>1</sup> Lecturer, Department of Prasuti Tantra and Striroga, Govt. Ayurvedic College and Hospital, Tulsinagar, Balangir, Odisha

<sup>2</sup> M.D. Scholar, P.G. Department of Rog Nidan and Vikruti Vigyan

<sup>3</sup> M.D. Scholar, P.G. Department of Ayurveda Samhita & Siddhanta

### Corresponding Author:

Dr. Sudha Dansana, Lecturer,  
Department of Prasuti Tantra  
and Striroga, Govt.  
Ayurvedic College and  
Hospital, Tulsinagar,  
Balangir, Odisha, 767001,  
[dr.sudhadansana@gmail.com](mailto:dr.sudhadansana@gmail.com)

### Abstract:

Tubal factors account for 30% of the causes of infertility in women. The most severe manifestation of tubal diseases is hydrosalpinx, found in 10-20% of couple presenting with infertility. In *Ayurvedic* classics, *Ritu* (ideal period for conception), *Kshetra* (female reproductive system), *Ambu* (essential nutrition) and *Beeja* (ovum and sperm) are considered to be the prime factors for achievement of conception. Although, *Vandhatwa* (infertility) caused by Tubal pathology is not mentioned in Ayurveda directly, it can be understood under *Kshetra vikriti* and *Sanga Sroto dushti* of *Artavavaha srotas*. In the existing modern science, there is very limited scope to treat tubal blockage due to hydrosalpinx. In Ayurveda *Shodhana Chikitsa* (Purification) and *Sthanik Chikitsa* (local therapies) are proved to be effective in treating hydrosalpinx.

### Key words

*Hydrosalpinx, Artavavaha-Srotodushti, Shodhan Chikitsa, Sthanik chikitsa*

## INTRODUCTION

In women, 14% of the factors of infertility are tubal Factor. Among the various reasons for infertility, hydrosalpinx accounts for 10-30% of various fallopian tube diseases.<sup>1</sup> Hydrosalpinx is the dilatation of fallopian tube in the presence of distal tubal occlusion, mainly occurs from pelvic inflammatory diseases (PID).

In *Ayurvedic* classics, *Ritu* (ideal period for conception), *Kshetra* (female reproductive system),

*Ambu* (essential nutrition) and *Beeja* (ovum and sperm) are considered to be the prime factors for achievement of conception<sup>2</sup>. Tubal factor can be considered beneath *Kshetra Dushti* and *Sanga Sroto Dushti* of *Artavavaha Srotas* (Obstruction in fallopian tube). Hydrosalpinx is a *Pitta -Kapha* dominated *Tridoshaja Vyadhi*, where *Vata* is responsible for *Samkocha* (stenosis), *Kapha* for

*Shopha* (swelling) and *Pitta* for *Paka* (inflammation) and *Putisrava* (pus accumulation).

In patients of infertility, Hydrosalpinx hampers the conception by reducing the implantation rate, consequently pregnancy. Even the outcome of Invitro fertilization and Embryo Transfer (IVF-ET) is disappointing in patients with hydrosalpinx. Hydrosalpinx is associated with a reduced chance of implantation and an increased risk of early pregnancy loss. This may result from the adverse effect on the endometrial environment of the hydro salpingeal fluid, after its reflux in the uterus. Hence The United Kingdom's National Institute of Health and Clinical Excellence guidelines suggest the management of hydrosalpinx by laparoscopic salpingectomy before IVF in order to improve outcomes (O' Flynn 2014)<sup>3</sup>.

Proximal tubal ligation, fimbria salpingostomy, tubectomy, and hydrosalpinx aspiration aided by ultrasound are the main treatments for hydrosalpinx that are now available. The arteries of the fallopian tube and mesovarium may be damaged by surgical procedures for hydrosalpinx, which could impair ovarian blood flow and lower ovarian reserve function and superovulation response. Here we report a unique case of Hydrosalpinx, which was successfully treated with holistic treatment modalities of Ayurveda that includes *Shodhana Chikitsa* (Purification), *Lekhana Basti* (medicated enema) and *Sthanik Chikitsa* (local therapies).

## CASE REPORT

### PATIENT INFORMATION

A 27 years old married Hindu female reported in OPD No.-07, Department of Prasuti Tantra and Striroga of Govt. Ayurvedic College and Hospital, Balangir on dated 13/05/2023 with complaints of inability to conceive for 3 years with previous hysterosalpingography report dated 14-02-2022 showing the features of bilateral hydrosalpinx with no free intraperitoneal spill on both fallopian tubes [Fig.1]. On detailed history, her menstrual cycle was regular with the duration 4-5 days and 28-35 days of interval without any associated complaints. Her last menstrual period was 07/05/2023. She had no past history of HIV, VDRL, HBsAg, diabetes mellitus and tuberculosis.

### CLINICAL FINDINGS

#### PHYSICAL EXAMINATION

The patient was afebrile. Pulse rate was 75/min, respiratory rate was 19/min and blood pressure was 112/80 mmHg. No abnormality was noted in examinations of respiratory and circulatory systems.

#### **DASHVIDHA PARIKSHA (TEN METHODS OF EXAMINATION OF A PATIENT):**

Patient had *Pitta- kapha prakriti* and *Pitta- kapha vikriti* with *Madhyam* (medium) *Samhana* (Compactness of the body) and *Pramana* (measurement) was also *Madhyama*. Patient had

*Mishra rasa* (mix diet) with predominance of *Amla rasa* (sour). Based on her age, she was considered a *Yuva varga* (youth). She had *Vyayam Shakti* (workout) and *Madhyam Ahara Shakti* (middle food).

## LOCAL EXAMINATION

In Per speculum examination cervix was normal without any local lesion. No discharge per vagina was seen. In per vaginal examination uterus was anteverted, firm, mobile and normal size. Cervix was smooth and cervical motion tenderness was absent. No any abnormality was detected in adnexa palpation.

## DIAGNOSTIC ASSESSMENT

Latest hysterosalpingography report dated 14-02-2022 showing the features of bilateral hydrosalpinx was taken for consideration that showing no free intraperitoneal spill on both fallopian tubes. The lipid profile, blood glucose level, CBC, and ESR were all within normal ranges during the hematological examination. Hormonal assay was found to be normal. Husband semen analysis report was also normal.

## TIMELINE

Patient married life was 04 year. Just after marriage the both couples tried for conception, but they failed. Patient was advised with hysterosalpingography on dated 14-02-2022 by an

allopathy doctor and was advised to undergo laparoscopic salpingectomy. Thereafter patient approached our OPD on 13/05/2023 seeking alternative treatment as she does not want loose tube to retain fertility and the treatment was continued till 22/08/2023. The total duration of the treatment was 03 month 09 days [Table No. – 01, 02 & 03]. The image of the HSG report was taken before and after treatment. [Fig No.-01 & 02].

## THERAPEUTIC INTERVENTION

### [TABLE NO. - 01]

### SHODHANA AND STHANIK CHIKITSA

At first, treatment was planned with *Shodhana Chikitsa* (purification method). In first visit, *Deepan Pachan* (appetizer and digestive action) was started on 13/ 05/ 2023 followed with *Snehapana* (oral intake of medicated ghee) and *Sarvanga Snehana-Swedana* (whole body massage with steam) and finally *Virechan*(Purgation) was done. Total 18 *Virechan vegas* (number of motion) were observed and according to that *Samsarjana krama* (specific diet schedule) was advised. In next visit, *Lekhana Basti* was administered for 15 days with the combination of *Anuvasana*(Medicated oil enema) and *Asthapan Basti* (Enema by using Decoction). Then after cessation of each menstruation, *Uttarbasti*(Urethral Douche) was administered in an aseptic condition consecutively for 02 menstrual cycles. Each *Uttarbasti* was

preceded by *Yonidhawan* (vaginal douching) with *Triphala kashaya* and followed with *Yonipichu* (vaginal tamponing) with *Phalasarpi*.

**Table- 01: Table showing the schedule of the therapies with duration at 1<sup>st</sup> visit**

Date	Procedures	Medicines	Dose	Duration
13/05/2023	Deepan-Pachan	Chitrakadi Vati (250 mg)	1 tablet T.D.S after food	05 days
		2. Panchakolaphanta	40 ml twice daily before food	05 days
18/03/2023	Snehapana	Varunadi ghrita	D1- 40 ml, D2- 80 ml D3-120 ml D4- 160 ml D5-200 ml	07 days (Early morning at 6.00 AM)
23/05/2023	Sarvanga snehana and swedana	Mahanarayan taila Dashmoola kwatha	Quantity required	03 days
26/05/2023	Virechan	Trivrita avaleha+ Triphala kwatha + Eranda sneha	80 gm 100 ml 20 ml	At 10 AM
26/05/2023	<i>Samsarjana krama</i>	Specific diet chart	-	05 days
05/06/2023	Menstruation started			04 days

## TREATMENT GIVEN AT 2<sup>ND</sup> VISIT [TABLE-02]

At 2<sup>nd</sup> visit after cessation of menstruation, patient is treated with *Lekhana Basti* for 15 days and *Uttarbasti* for initial 05 days. In the course of *Lekhan Basti*, 08 *Anubasan Basti* with *Br. Dashmool Taila* (60 ml.) and 07 *Niruha Basti* were

administered. For the preparation of *Niruha Basti*, *Madhu*- 60 ml, *Saindhav*- 10 gm, Tamarind paste- 50 gm, *Gomutra*- 100 ml and *Dashmooleranda kwatha*- 250 ml were taken. The quantity of *Niruha Basti* administered was 470 ml a day. *Niruha Basti* and *Anubasan Basti* were given before and after taking food respectively. *Uttarbasti* with

*Apamargakshara Taila* (5ml) was given at evening  
for initial 05 days.

**Table- 02: Table showing the schedule of the therapies with duration at 2<sup>nd</sup> visit**

05/06/2023	Menstruation started (for 03 days)		
08/06/2023 onwards	Days	Morning	Evening
	D1	<i>Anubasana Basti</i>	<i>Uttarbasti</i>
	D2	<i>Anubasana Basti</i>	<i>Uttarbasti</i>
	D3	<i>Niruha Basti</i>	<i>Uttarbasti</i>
	D4	<i>Anubasana Basti</i>	<i>Uttarbasti</i>
	D5	<i>Niruha Basti</i>	<i>Uttarbasti</i>
	D6	<i>Anubasana Basti</i>	-
	D7	<i>Niruha Basti</i>	-
	D8	<i>Anubasana Basti</i>	-
	D9	<i>Niruha Basti</i>	-
	D10	<i>Anubasana Basti</i>	-
	D11	<i>Niruha Basti</i>	-
	D12	<i>Anubasana Basti</i>	-
	D13	<i>Niruha Basti</i>	-
	D14	<i>Anubasana Basti</i>	-
	D15	<i>Niruha Basti</i>	-

### Treatment given at 3rd visit

At 3<sup>rd</sup> visit after cessation of menstruation on 07/07/2023, the same treatment protocol is adopted as given at 2<sup>nd</sup> visit. The patient was advised to follow *Pathya-apathya* after completion of *Basti* course for 15 days in each visit.

### Treatment given at 4<sup>th</sup> visit [Table no- 03]

After completion of above therapies, oral medicines were given for one month as shown in table no-03.

### ***PATHYAPATHYA* (DO'S AND DON'TS)-**

#### ***PATHYA* (DO'S):**

Foods that were light, digestible, fresh, and warm were recommended, particularly *Khichdi* and

*Mudgayusha* (green gram juice), as well as a diet high in fiber, such as brown rice, oats, and *Dalia*. *Yogasana*, *pranayama*, breathing techniques, and "OM" chanting were recommended every day for 20 minutes in the morning and evening to reduce tension and anxiety.

#### ***APATHYA* (DON'TS):**

During the whole treatment, patient was advised not to take *Guru* (heavy), *Vidahi* (food causing burning sensation), *Abhishyandi* (food that blocks channels of the body) diet, non-vegetarian food, food rich in starch, carbohydrate and preservative. She was counselled to abstain and refrain from day sleep.

**Table- 03: Table showing the medications at 4<sup>th</sup> visit**

Sl no.	Aushadhi / Drug	Matra / Quantity	Kalpna / Form	Kala / Time	Anupana
1	<i>Triphala Guggulu</i>	500mg x2	<i>Gutika</i>	B.D. 30 minutes after food	Lukewarm water
2	<i>Punarnavasava</i>	20 ml	<i>Asava</i>	B.D. 30 minutes after food	Normal water
3	<i>Varunadi Kashaya</i>	20 ml	<i>Kashaya</i>	B.D. 30 minutes before food	Lukewarm water

### FOLLOW-UP AND OUTCOME

At the completion of whole treatment HSG was done on 9<sup>th</sup> day of menstruation (L.M.P-

26/08/2023). HSG Findings on dated 03/09/2023 showed normal spill from both fallopian tube with no hydrosalpinx [Figure No.-02]. Throughout the

entire regime, no unfavourable or unexpected events were observed.

## DISCUSSION

Hydrosalpinx is a *pitta -Kapha* dominated *Tridoshaja Vyadhi*, where *Vata* is responsible for *Samkocha* (stenosis), *Kapha* for *Shopha* (swelling) and *Pitta* for *Paka* (inflammation) and *Putisrava* (pus accumulation)<sup>4</sup>. It is also a *Sanga Srotadushti janya vyadhi* due to accumulation of excessive *Dravas* (serous fluids) in the fallopian tubes. Considering this the treatment should be *Stroshodhaka*, *Shoshaka* (absorbent) and *Tridosha shamaka*.

*Deepan-Pachan Aushadhi* brings *Laghuta* (lightness) in *Dosha-Dushya Sammurchana* that helped in easy elimination of *Doshas* from the body. Again, it improves digestive bio fire thus reduce *Ama* formation which is a measure cause of *Srotosanga*.

*Varunadi ghrita* was taken as *Snehapana* as a *Purva Karma* of *Virechan Karma*. *Varuna* (*Crataeva nurvala*) is well-known for its *Lekhana* (scraping) and *Granthihara karma* (antitumor-activity). Studies have shown that the extract of *Varuna* is found to possess the ability to reduce inflammation in vitro and in animal models due to its active ingredient Lupeol. It is also having chemo protective agents, antimicrobial and immunomodulatory action.<sup>5</sup>

*Trivrita Avaleha* was taken for *Virechan* that helped in reaching to the micro channels of the body by its *Sukshma* (minute), *Usna* (hot) and *Tikshna guna* (sharpness). Thus liquefied the *Dosha Sanghata* (accumulation of *Dosha*), break the *Mala* in micro form and eliminate the vitiated *Doshas* through *Adhomarga* (Anal route).<sup>6</sup> *Trivrita* is having anti-inflammatory, antioxidant, and immunomodulatory activities and helps in the elimination of toxins from the body.<sup>7</sup>

Drug given through the rectal route absorbed through the mucosal layer of rectum and enters into systemic circulation faster than oral. So, in the present study, *Lekhana Basti*<sup>8</sup> worked on whole body and enhanced the normal function of *Apana Vayu*. The ingredients such as *Triphala*, *Gomutra* present in *Lekhanabasti* are having *Tikshna* (sharpness), *Usna* (hot) and *Ruksha* (Dryness) properties. *Madhu* is having *Yogavahi* (catalyst), *Srotosodhaka*, *Kapha-pitta* alleviating, *Kleda soshak* (purifying exudates) and *Chedana* (excision) properties.<sup>9</sup>

*Gomutra* (cow's urine), by virtue of its *Katu* (pungent), *Tikshna* (sharp), *Usna* (hot), *Laghu* (light) and *Khara* (alkaline) properties clears the blockage in microchannel. It is Used as *Deepana*, *Lekhana*, *Anulomana*, and *Amapachana*.<sup>10</sup> The biochemical estimation of cow urine has revealed that it contains sodium, nitrogen, sulphur, Vitamin A, B, C, D, E, Enzymes, creatinine, calcium salts, phosphate, lactose, carbolic acid, manganese, iron, silicon,



chlorine, magnesium, citric, succinic, and hormones. *Gomutra* has antioxidant, anti-inflammatory, bioenhancer and free radical scavenging activity which could be attributed to *Rasayana* effect.<sup>11</sup>

The complete and final product of *Lekhana Basti* is a hyper tonic solution. After entering in the large intestine, it creates the osmotic pressure gradient, favouring the body fluids transfer from hypotonic to hyper tonic solutions along with toxic materials. This phenomenon preferably helps to drag the toxins (unwanted metabolites) from intra cellular levels to large intestine and are eliminated out of body through rectal route. The key ingredients present in *Lekhana Basti* can significantly suppress inflammation, improve microcirculation, reduce inflammatory cell infiltration, tissue adhesion and fibrosis, and promote damaged tissue repair.

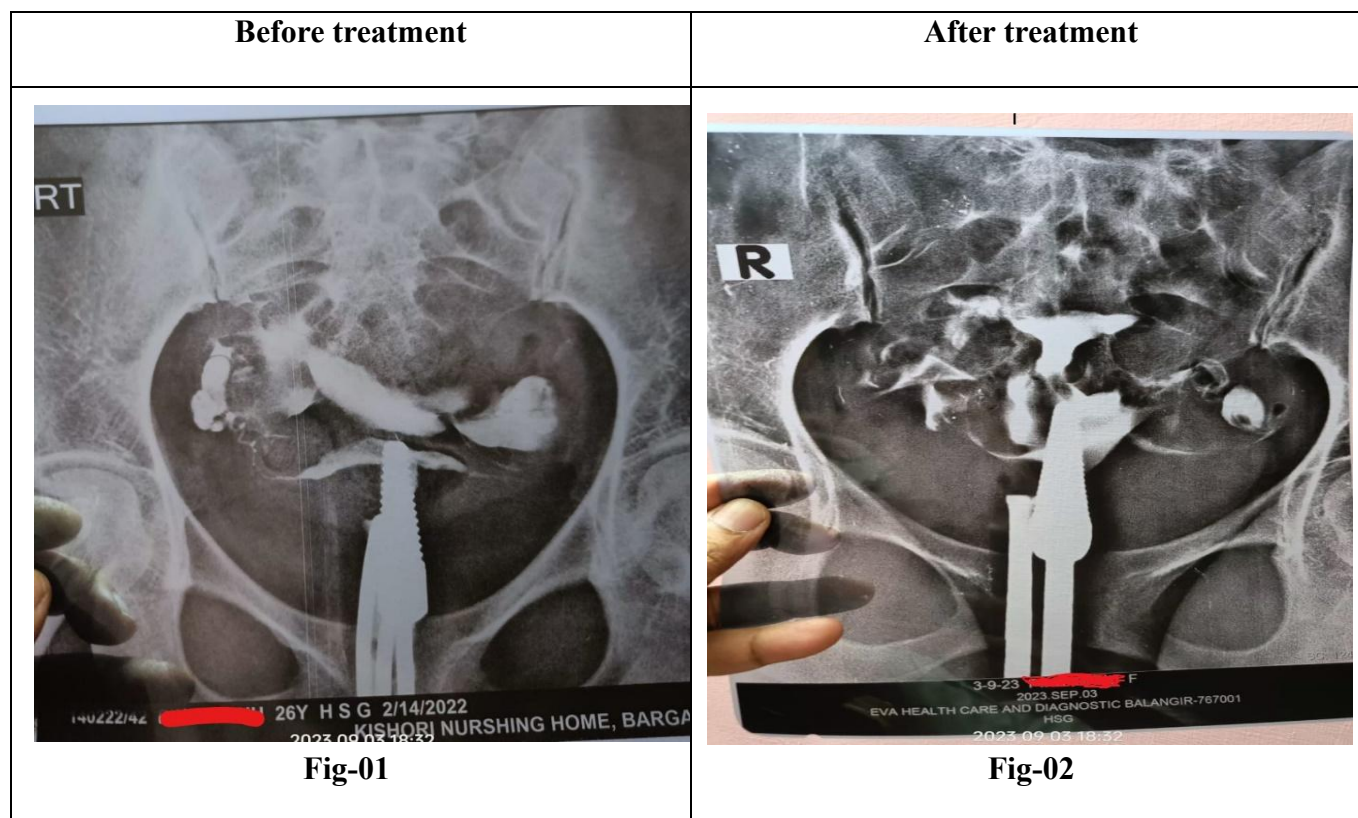
A medication with *Lekhana karma* will be better for the tubal block, while one with *Snehan* properties may be beneficial during ovulation. Additionally, *Uttar Basti* may activate specific endometrial receptors, resulting in the correction of all reproductive system physiological functions. Because the posterior fornix has a highly abundant blood supply and may potentially serve as a drug

storage, intravaginal *Uttar Basti* may also aid with drug absorption.<sup>12</sup>

*Uttara Basti* is a local procedure where medicated oil or ghee is administered directly into *Garbhasaya* (uterus). In current study *Apamarga Kshara taila*<sup>13</sup> was used for *Uttara Basti* which contains *Kshara*<sup>14</sup> has Properties of mainly *Chedan*(excision), *Bhedan*(incision) and *Lekhan* (Scarping). The *Apamarga Kshara* was found strongly alkaline reaction (pH of 5%w/v solution in water 10.44) and hygroscopic.<sup>15</sup> Its strong alkaline nature was responsible for the corrosive action i.e. destruction (slough off) of fibrosed tissue present inside the lumen of tubes. The water -soluble alkaloid achyranthine found in *Achyranthes aspera* is screened for its anti- inflammatory action.

Again, study reveals that aqueous and ethanol extracts of *Apamarga* leaves contain tannins, flavonoids, glycosides, and alkaloids. Thus, the enhanced wound healing may be due to the free radical scavenging action and immune-enhancing property of the plant. Hence it is proved *Apamarga Kshara Taila* is capable of removing endometrial and tubal fibrosis and its anti-inflammatory properties helps inner lining of tubes to heal and rejuvenate establishing the normal functioning of tubal cilia.





**Fig no. 01 & 02 - Showing Hysterosalpingography X-Ray before and after treatment**

## CONCLUSION

In present study, a significant result was obtained in treating tubal blockage due to hydrosalpinx by intervening therapeutic cleansing procedures such

**Conflict of interest- Nil**

**Funding - Nil**

## REFERENCES

1. Kawwass JF, Crawford S, Kissin DM, Session DR, Boulet S, Jamieson DJ. Tubal factor infertility and perinatal risk after assisted reproductive technology. *Obstet Gynecol.* 2013;121(6):1263-1271. doi:10.1097/AOG.0b013e31829006d9
2. Maharshi Sushruta, Sushruta Samhita, edited by Kabiraj Ambika Dutta Shastri,

as *Virechan*, *lekhan Basti* and *Uttarbasti* along with Ayurvedic medicines. However, the efficacy of such a strategy may be shown through RCT studies in a larger sample size.

Sharir sthana. Ch 02, Ver 35. 2<sup>nd</sup> edition, Varanasi: Chaukhamba Sanskrit Samsthan;2011. p. 19

3. National Collaborating Centre for Women's and Children's Health (UK). *Fertility: Assessment and Treatment for People with Fertility Problems*. London (UK): RCOG Press; 2004 Feb. PMID: 21089236.

4. Maharshi Sushruta, Sushruta Samhita, edited by Kabiraj Ambika Dutta Shastri, Sutra sthana. Ch 17, Ver 12. 2<sup>nd</sup> edition, Varanasi: Chaukhamba Sanskrit Samsthan;2011. p. 94
5. Khattar, Vandana, and Ankita Wal. "Utilities of Crataeva nurvala. International Journal of Pharmacy and Pharmaceutical Sciences 4.4 (2012): 21-26.
6. Agnivesha, Charak Samhita, edited by Bramhananda Tripathy, Kalpa sthana. Ch 01, Ver 05. 2<sup>nd</sup> edition, Varanasi: Chaukhamba Bharati Academy;2011. p. 1072
7. Swami S, Mughees M, Kauser S, Wajid S. Evaluation of acute oral toxicity of Ipomoea turpethum extract loaded polymeric nanoparticles in Wistar rats. Front Pharmacol. 2023 Mar 15;14:1086581. doi: 10.3389/fphar.2023.1086581. PMID: 37007000; PMCID: PMC10050689.
8. Maharshi Sushruta, Sushruta Samhita, edited by Kabiraj Ambika Dutta Shastri, Chikitsa sthan, Ch 38, Ver 82. 2<sup>nd</sup> edition, Varanasi: Chaukhamba Sanskrit Samsthan;2011. p. 214
9. Vagbhata, Astanga Hrdayam, Edited by Vaidya Yadunandana Upadhyaya, Sutra sthana, Ch 5, Ver 52. Varanasi: Chaukhamba Prakashan; 2019. p. 58
10. Maharshi Sushruta, Sushruta Samhita, edited by Kabiraj Ambika Dutta Shastri, Sutra sthan, Ch 45, Ver 220-221, 2<sup>nd</sup> edition, Varanasi: Chaukhamba Sanskrit Samsthan; 2018. p.240
11. Vagbhata, Astanga Hrdayam, Edited by Vaidya Yadunandana Upadhyaya, Sutra sthana, Ch 5, Ver 82-83. Varanasi: Chaukhamba Prakashan; 2019. p. 63
12. Vd. Sarvesh Kumar Singh, Vd. Kshipra Rajoria, A Textbook of Panchakarma, Basti karma, Ch 06. 1<sup>st</sup> edition, Varanasi: Chaukhamba Prakashan;2024.p.196
13. Kaviraj Govindadas Sen, Bhaisajya Ratnavali, Edited by Prof.Siddhi Nandan Mishra, Karna Roga Adhikara, Ch 62. Ver 26. 2<sup>nd</sup> edition, Varanasi: Chaukhamba Surbharati Prakashan; 2017.p. 969
14. Maharshi Sushruta, Sushruta Samhita, edited by Kabiraj Ambika Dutta Shastri, Sutra sthan, Ch 11. Ver 03. 2<sup>nd</sup> edition, Varanasi: Chaukhamba Sanskrit Samsthan;2018. p. 45
15. Shah B, Dudhamal TS. Efficacy of Apamarga Kshara application and Sclerotherapy in the management of Arsha (1st and 2nd degree piles) - An open-labeled, randomized, controlled clinical trial. Ayu. 2018 Oct-Dec;39(4):213-219. doi: 10.4103/ayu.AYU\_147\_18. PMID: 31367143; PMCID: PMC6639815