



EFFECT OF KUTAJA KSHARA SUTRA (*Holarrhena antidysentrica*) IN THE MANAGEMENT OF BHAGANDARA (FISTULA-IN-ANO)

¹Dr. Tasleem Banu ²Dr. M. N. Hiremath ³Dr. Raghuveer

¹Final year PG Scholar, Department of Shalya Tantra, ²Professor and HOD, Department of Shalya Tantra,

³Professor and HOD, Department of Rasashastra and Bhaishajya Kalpana, Ashwini Ayurvedic Medical College and P.G. Centre, Davanagere Karnataka

ABSTRACT

Bhagandara is an anorectal ailment, which is symptomatically correlated to Fistula-in-ano in the Modern literature. Fistula-in-ano can be defined as a track lined by granulation tissue, which connects perianal skin superficially to anal canal, anorectum or rectum deeply, usually occurs secondary to a pre-existing anorectal abscess, which burst spontaneously. The treatment for fistula-in-ano in Modern science involves opening of the track using a knife and later either the unhealthy granulation tissue is scraped off with a Volkmann spoon or the whole track with the fibrous tissue is excised. The problem faced in the treatment of fistula in ano is extensive mutilation of the ano-rectal and ischio-rectal area, which is a prerequisite for the radical cure, prolonged hospitalization, high rate of recurrence and anal incontinence. Among the various treatment practised in Ayurveda nowadays, Kshara sutra ligation has utmost benefits, given its high healing tendency and rare to none chances of recurrence.

KEYWORDS: Bhagandara, Fistula-in-ano, Kshara sutra.

INTRODUCTION

Bhagandara¹ is derived from two words 'bhaga' and 'darana' meaning this disease causes darana of bhaga ie, infiltration or splitting of vasti, guda, yoni or mehana. Fistula-in-ano² can also be defined as an inflammatory track which has an external opening (secondary opening) in the perianal skin and an internal opening (primary opening) in the anal canal or rectum. This track is lined by unhealthy granulation tissue and fibrous tissue. Given bhagandara causes severe pain, discomfort, discharge from the perineal region, it further affects the daily activities, including difficulty ambulating and sitting.

The word 'kshara' can be derived from two roots, ksharana or kshanana. Here, ksharana means to dislodge/to melt away and kshanana means to kill/to destroy. The literal meaning of 'kshara' is the substance that is corrosive, caustic, pungent, saline, and acrid in its properties. Acharya Vagbhata³ describes kshara properties as Slakshna (smooth), Na-Ati Tikshna (neither too strong), Na-Ati Mrudu (nor too mild), Pichchila (slimy), Shigra (spreads quickly), Sita (white), Shikhari (remains like a mountain peak at the site of application), Sukha Nirvapa (easily removable), Na-Ati Vishyandi (produces neither too much of exudation), Na-Ati Ruk (nor severe pain); does all the functions of the Shastra and Agni. By actions such as Aachusha (sucks quickly), Samrambhada Gatra Peeda (tormenting the whole body), Sarvato Anusaran (spreads everywhere), it pulls out all the doshas by their roots, after such action when the pain or disease disappears, the kshara also subsides of its own accord. Acharya Sushruta⁴ describes kshara as superior to shastras, anushastras because of their capability to perform Chedana (excision), Bhedana (incision), and Lekhana (scraping). It also alleviates tridoshas, and can be used where shastra chikitsa is contra-indicated or where yantras cannot be used ie, marmasthana, stri, bala or on those who are afraid of surgery.

Kshara sutra⁵ is a medicated thread prepared by applying the coatings of kshariya dravya, haridra, and snuhi ksheera as binding agent. The thread is then sterilized by UV radiation. The cumulative effect of the above mentioned 3 drugs exerts powerful debridement effect and induces healing by the formation of fresh and healthy granulation tissue. Acharya Sushruta while describing the process of kshara extraction has mentioned 23 drugs and kutaja is first and foremost drug. Apamarga kshara sutra is mainly used as a standard drug in the treatment of Bhagandara and in order to study the properties and effects of kutaja kshara sutra in treating bhagandara this drug was chosen for the study. Total 20 patients suffering from bhagandara (Fistula-in-ano) were selected for the study.

OBJECTIVES

1) To evaluate the efficacy of Kutaja Kshara sutra in treating Bhagandara.

MATERIALS AND METHODS

Acharya Susruta⁶, while describing the process of Kshara extraction in sutrasthana chapter-11 has mentioned 23 drugs and Kutaja is first and foremost drug. Acharya sushruta⁷ in 17th chapter of Sushruta chikitsa sthana has advocated the ksharasutra and its application. Chakrapani datta⁸ the authoritative commentator of Charaka Samhitha has described the preparation of Kshara sutra by smearing the latex of snuhi, kshara and haridra repeatedly.

Present study was an open clinical study in which 20 patients were selected on the basis of simple random sampling (SRS) procedure, strictly confined to the treatment of low anal Fistula (sub-cutaneous). It was performed on the patients who attended the outpatient and inpatient Department of Shalya Tantra, Ashwini Ayurvedic Medical College and PG Centre, Davanagere.

Preparation of Kutaja kshara⁹:

- The kutaja was collected cut into small pieces and dried under shade.
- Once completely dried the plant was burnt uniformly and completely into greyish ash.

- This ash obtained was dissolved in 4 parts of water and kept overnight.
- Next day the clear supernatant water was decanted out into a clean vessel and boiled till the water evaporates, leaving a fine powder.
- The final product was a powder- kshara.

Table 1: Physico Chemical Standards of Kutaja

Ash value	18.01%
Acid insoluble ash	1.694%
Water soluble extractive	5.520%
Alcohol soluble extractive	10.736%

Method of preparation of kutaja kshara sutra¹⁰

Surgical Barbour's thread No.20 was tied through length on hanger. The freshly collected Snuhiksheera was smeared on thread equally throughout its length and hanger was dried in cabinet. The process repeated for 11 days, on 12th day again, the thread was smeared with Snuhiksheera and then hanger is passed through heap of fine powder of kutaja kshara, and then dried in cabinet. The same procedure was repeated for 7 days. On 19th day the thread was smeared with Snuhi ksheera and passed through heap of fine powder of Haridra churna and dried in cabinet. The procedure was repeated for 3 days. Last the prepared ksharasutra was kept in ksharasutra cabinet for 1 hour under U.V. light radiation for sterilization.

Diagnostic criteria

The patients were subjected to detailed clinical study and diagnosis was done on the basis of signs and symptoms of fistula-in-ano.

a) Inclusion Criteria:

- A case of fistula in ano with pain, discharge, burning sensation and itching.
- Low Anal Fistula.
- Fistula track of less than 6 cm.
- Patient of the age group 20-60 years.

b) Exclusion Criteria:

- Bhagandara patients with systemic disorders like DM, HTn.
- Patients who are contra-indicated for Kshara Karma¹¹.
- High Anal Fistula.
- Multiple fistulas were excluded.
- Subjects with Fistulous track secondary to some pathology like Tuberculosis, Crohn's Disease.

Assessment criteria

The clinical examination of the patient was conducted before & after treatment and accordingly, the effectiveness was evaluated as per the assessment criteria fixed. The subjective and objective parameters for assessment are as follows.

a) SUBJECTIVE CRITERIA:

Pain was graded as

Grade 0 - No pain

Grade 1 - Mild tolerable pain

Grade 2 - Moderate/intolerable pain especially while sitting, does not disturb routine work

Grade 3 - Severe intolerable pain, disturbs routine work.

Discharge is graded as

Grade 0 - No discharge

Grade 1 - Mild if the srava wets the cloth and changed once in 12 hrs

Grade 2 - Moderate if the srava wets the cloth and changed once in 6 hrs

Grade 3 - Severe if the srava wets the cloth and changed repeatedly every 1 or 2 hourly.

Burning sensation is graded as

Grade 0 - No burning sensation

Grade 1 - Mild burning sensation

Grade 2 - Moderate burning sensation

Grade 3 - Severe burning sensation

b) OBJECTIVE CRITERIA:

Length of track:

Grade 0- No track

Grade 1- 0-2 cm

Grade 2- 2-4 cm

Grade 3- 4-6 cm

Local tenderness:

Grade 0- No tenderness

Grade 1- Tenderness on palpation without flinch

Grade2- Tenderness with flinch on palpation

Grade 3- Tenderness with withdrawal even on gentle palpation

Duration of the study: 4 weeks.

The clinical assessment was done in every 7 days interval. The initial finding was taken clinically and statements were compared with the result of progressive 7th day, 14th day and so on.

Result

In the present clinical study, the result of all the cases were estimated on the basis of following points.

Table 2: Effect of therapy in Subjective criteria (pain) in 20 patients of Bhagandara

PARAMETERS	Mean BT	Assessment on 7/14/21/28th days		Mean difference	% Relief	S.D	S.E	t value	P	Remarks
PAIN	2.15	7th	2.1	0.05	2.33	0.76	0.17	0.294	>0.05	I
	2.15	14th	1.45	0.7	32.56	0.58	0.13	5.381	<0.001	HS
	2.15	21st	0.95	1.2	55.81	0.66	0.15	8	<0.001	HS
	2.15	28th	0.4	1.7	81.4	0.24	0.054	32	<0.001	HS

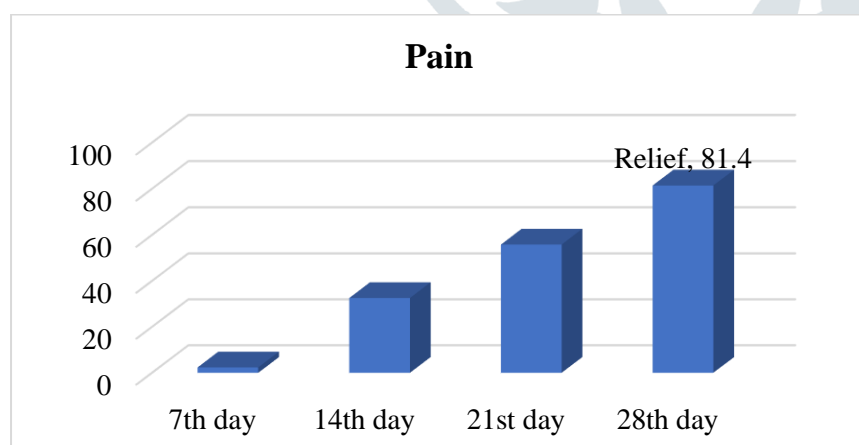
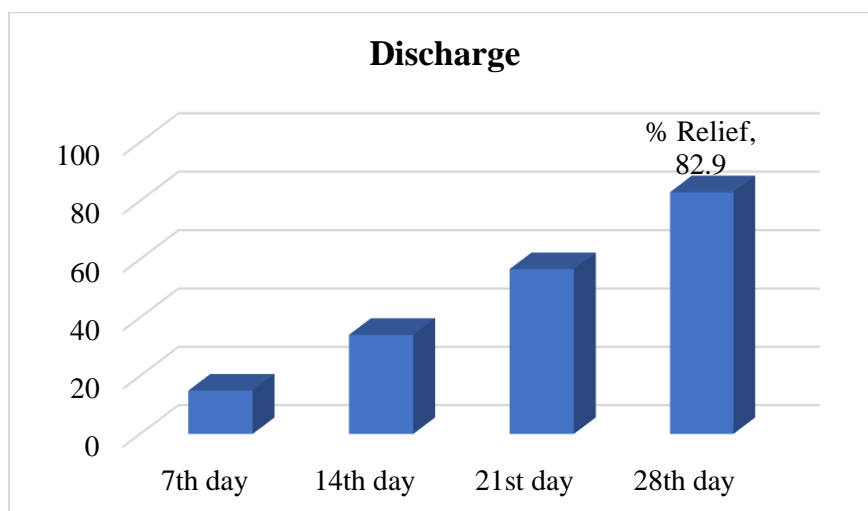


Table 3: Effect of therapy in Subjective criteria (discharge) in 20 patients of Bhagandara

PARAMETERS		Assessment on 7/14/21/28th days		Mean difference	% Relief	S.D	S.E	t value	P	Remarks
DISCHARGE	2.35	7th	2	0.35	14.9	0.71	0.16	2.18	<0.05	MS
	2.35	14th	1.55	0.8	34.04	0.58	0.13	6.15	<0.001	HS
	2.35	21st	1.05	1.33	56.6	0.5	0.11	12.1	<0.001	HS
	2.35	28th	0.4	1.95	82.9	0.48	0.11	17.7	<0.001	HS

**Table 4: Effect of therapy in Subjective criteria (burning) in 20 patients of Bhagandara**

PARAMETERS		Assessment on 7/14/21/28th days		Mean difference	% Relief	S.D	S.E	t value	P	Remarks
BURNING SENSATION	2.15	7th	2.05	0.1	4.65	2.06	0.46	0.21	>0.05	I
	2.15	14th	1.55	0.6	27.9	0.61	0.14	4.2	<0.001	HS
	2.15	21st	1	1.15	53.4	0.54	0.12	9.5	<0.001	HS
	2.15	28th	0.35	1.8	83.7	0.46	0.1	18	<0.001	HS

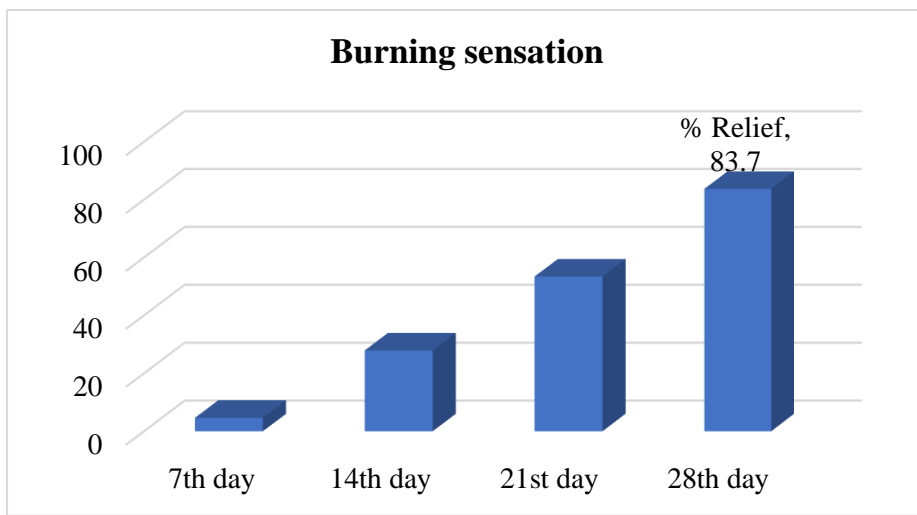


Table 5: Effect of therapy in Objective criteria (local tenderness) in 20 patients of Bhagandara

PARAMETERS		Assessment on 7/14/21/28th days		Mean difference	% Relief	S.D	S.E	t value	P	Remarks
LOCAL TENDERNESS	2.25	7th	2.2	0.05	2.22	0.77	0.17	0.29	>0.05	I
	2.25	14th	1.65	0.6	26.66	0.59	0.13	4.61	<0.001	HS
	2.25	21st	1.15	1.1	48.8	1.29	0.29	3.79	<0.001	HS
	2.25	28th	0.5	1.7	75.5	0.5	0.11	15.9	<0.001	HS

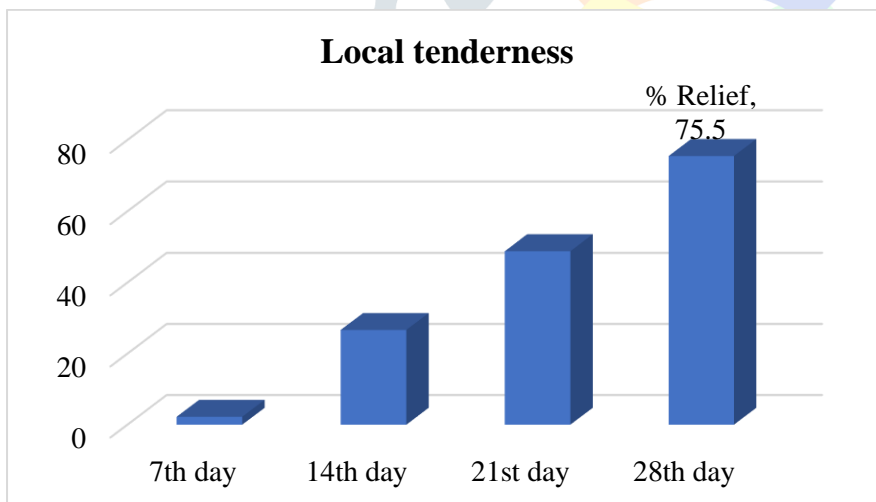
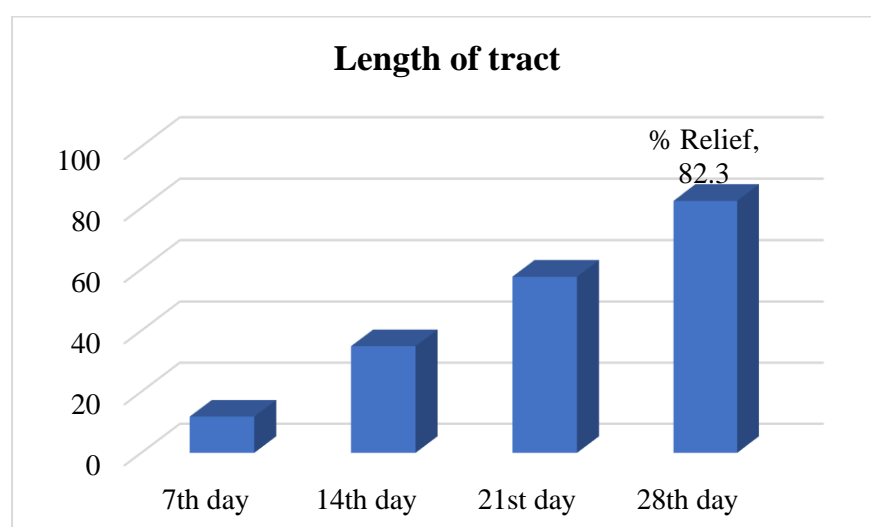


Table 6: Effect of therapy in Objective criteria (length of tract) in 20 patients of Bhagandara

PARAMETERS		Assessment on 7/14/21/28th days		Mean difference	% Relief	S.D	S.E	t value	P	Remarks
LENGTH OF TRACT	2.95	7th	2.6	0.35	11.86	0.79	0.18	1.94	<0.05	MS
	2.95	14th	1.92	1.03	34.91	0.66	0.15	6.86	<0.001	HS
	2.95	21st	1.25	1.7	57.62	0.56	0.13	13.46	<0.001	HS
	2.95	28th	0.52	2.43	82.3	0.53	0.12	20.25	<0.001	HS



DISCUSSION:

Inclusion criteria for age group 20-60 years:

In this randomized clinical study, it was observed that 10% patients were below age 30, 40% of age group 30-40, 30% of age group 40-50, and 20% of age group 50-60. This was observed in various studies, for instance: McElwain and Colleagues¹² (1975) reported that 2/3rd of the patients are in 3rd or 4th decade of life and average mean age is 38.3 years. Ali Hamadani et al¹³, Dis Colon Rectum 2009 Feb, observed that the age group younger than 40 years significantly increased risk of chronic anal fistula. It can be inferred through the study conducted that the age group between 30-40 years are exposed to apathyakara ahara and vihara and negligence of cleanliness. This can be attributed to the fact that this age group is in the active stage of life, and is indulging in various activities like driving, sitting for prolonged hours, and unhealthy lifestyle modifications.

Effect of kutaja kshara sutra:

Kutaja by its properties of sleshmapittahara, raktahara, raktapittahara, deepana and pachana, is indicated in various diseases like kushta, arsha, atisara and shoola¹⁴. Due to its shleshmapittahara and raktapittahara properties, it reduces all the dosha and dhatu aggravation, and further the discharge is reduced. Due to its

shoolagna properties, it helps in reducing pain in patients. Kutaja¹⁵ is a rich source of tannin, alkaloids, including conessidine, holarrheine; the alkaloids isolated from Kutaja has bactericidal effect, and since the anal region is known to culture various bacteria, it helps fight against it. Acharya Charaka has mentioned kutaja under Arshogna¹⁶ and kandughna gana¹⁷. Acharya Sushruta in Aragvadhadi gana¹⁸, further explains that these group of drugs are kandughna and does vrana sodhana. Kutaja kshara due to its antibacterial, shoolagna, and vrana sodhana properties causes debridement of the unhealthy granulation tissue and induces healing. Use of Kutaja kshara sutra helped reducing the pain by 81.4% at the end of 28th day, similarly reduced discharge by 82.9% in 28 days, reduced burning sensation by 83.7% in 28 days, local tenderness was reduced by 75.5% in 28 days, and the length of tract was reduced by 82.3% in 28 days.

CONCLUSION:

Despite various advancements in modern science, the treatment of fistula-in-ano still has many limitations and complications. Kshara sutra ligation has been proved to be effective in treating the bhagandara successfully, not only by inducing significant healing but also with less limitations, complications, and negligible rate of recurrence. In this study, an effort was made to analyze the effect of kutaja kshara sutra in treating bhagandara, and the results were positive, with 82.3% reduction of fistulous tract at the end of 28th day. There are other studies previously conducted on kutaja kshara in treating arshas¹⁹ and guggulu-kutaja kshara sutra²⁰ in bhagandara, and in these research studies it was observed that the overall curing rate of arshas was 80% in kutaja kshara group and in other study it was noted that guggulu-kutaja kshara sutra was effective in treating all 20 patients at the end of the therapy.

REFERENCES:

1. Sushruta, Sushruta Samhita with Nibandha Sangraha commentary by Dalhana, foreword by Acharya Trikamji Vaidya, 8th edition, Chaukhambha Sanskrit Samsthana, Varanasi 2003, Nidanasthana: 4/3, pp:280.
2. S. Das, A Concise textbook of Surgery, 10th edition, Published by Dr. S. Das Kolkata 2018, Chap 45, pp:1071.
3. Shikantha Murthy K R, Astanga Hridaya Vol-2, (Sutrasthana), Varanasi, Chowkamba Krishnadas Academy, 2012, Chap 30/23-26, p: 347.
4. Singhal G D, Susruta Samhita Vol-1, (Sutrasthana), Varanasi, Chaukambha Sanskrit Samsthaan, 2018, Chap 11/03, p:86.
5. Dr. Sharma et al-Sharma KS, Sharma RK and Singh K: KsharaSutra therapy in Fistula-in-ano and other Anorectal diseases; New Delhi, National Ayurveda Academy,1995; pp:14.
6. Kaviraj Shastri Ambika Dutta, Susruta Samhita Vol-1, (Sutrasthana), Varanasi, Chaukambha Sanskrit Samsthaan, 2012, Chap 11/11, p: 46.
7. Singhal, G D, Susruta Samhita Vol-2, (Sutrasthana), Varanasi, Chaukambha Sanskrit Samsthaan, 2018, Chap 17/29-32, p:319.
8. Tripathi Jagadhishwar Prasad, Chakradatta, (Arshoadhikara), Varanasi, Chaukambha Sanskrit series office; shloka-148, p:55

9. Yoga Ratnakara, Vidyotini Hindi commentary by Shri Laxmipati Shastry, foreword by Bhishagratna Shree Bramhashankar Shastri, 7th edition, Chaukhamba Samskrit Samsthana, Varanasi 2002, Atha Kshara Kalpana, shloka:1-3, pp:170.
10. Dr. Sharma et al-Sharma KS, Sharma RK and Singh K: KsharaSutra therapy in Fistula-in-ano and other Anorectal diseases; New Delhi, National Ayurveda Academy,1995; pp:14.
11. Shikantha Murthy K R, Astanga Hridaya Vol-2, (Sutrasthana), Varanasi, Chowkamba Krishnadas Academy, 2012, Chap 30/4-7, p: 344.
12. McElwain JW, MacLean MD, Alexander RM, Hoexter B, Guthrie JF. Anorectal problems: experience with primary fistulectomy for anorectal abscess, a report of 1,000 cases. Dis Colon Rectum. 1975;18(8):646-9.
13. Hamadani A, Haigh PI, Liu IL, Abbas MA. Who is at risk for developing chronic anal fistula or recurrent anal sepsis after initial perianal abscess? Dis Colon Rectum. 2009;52(2):217-21.
14. Dr.Kamat SK, Dhanwantari Nighantu, (Shatah pushpadi varga), Varanasi, Chaukambha Sanskrit Samsthana, 2011, Shloka: 15, p: 132.
15. Shastry JLN. Dravyaguna Vijnana. Vol-2, Varanasi; Chaukambha Orientalia, 2007, p: 330.
16. Acharya Shukla Vidhyadhar Charaka Samhita, Vol-1, (Sutrasthana) Delhi, Chaukhamba Sanskrit Pratishthan, 2015, Chap 4/12, p:73.
17. Acharya Shukla Vidhyadhar Charaka Samhita, Vol-1 (Sutrasthana,), Delhi, Chaukhamba Sanskrit Pratishthan, 2015, Chap 4/14, p:73.
18. Kaviraj Shastri Ambika dutta, Susruta Samhita Vol-1. (Sutrasthana,) Varanasi, Chaukambha Sanskrit Samsthaan, 2012, Chap 38/6-7, p:183.
19. https://www.researchgate.net/publication/297715853_Clinical_study_of_Kutaja_and_Palasha_Kshara_in_the_management_of_Arsha 07/08/2022
20. https://www.researchgate.net/publication/337900285_Effect_of_Guggulu-Kutaj_Ksharsutra_in_Bhagandara 07/08/2022.