

“An Open Label Single Arm Clinical Study on Revalidation of Sushrutokta Chandrachakra Incision Followed by Kshara Karma in Parisravi Bhagandara”

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ABSTRACT:

Bhagandara is a chronic illness which can be co-related to Fistula in Ano, though it is not fatal but quite discomforting and troublesome to the patient, imposes a psychological stress on the patient. According to Acharya Sushruta, Bhagandara is enumerated as one among the Ashtamahagada. Among its five types, Parisravi Bhagandara with vitiated kapha has symptoms like itching pustule in perianal region, exudates large amount of slimy fluid. Hence clinically can be correlated to Fistula in Ano. Chedana is the main line of treatment in Bhagandara. Acharya Sushruta has mentioned various incision types according to the dosha predominance. In Parisravi Bhagandara, Chandrachakra incision is explained, suitable for low anal fistulas. Following the incision, Ksharasutra procedure is performed to destroy unhealthy tissue, excise tract, prevent recurrence, and promote healing.

Materials And Methods:

Subjects fulfilling the Diagnostic criteria approaching OPD and IPD of JSS Ayurveda Medical college and Hospital, Mysuru. Medical camps and other referrals were considered. An open-label single arm clinical study was adopted for this study, comprising of 30 subjects. The subjects were selected based on specific diagnostic, inclusion and exclusion criteria. They were treated with Chandrachakra ‘Circular’- shape incision, which was made around the external opening of the fistulous tract, this was followed by Ksharasutra procedure.

Results:

Based on the assessment criteria and overall outcomes of the treatment, implementing the Sushrutokta Chandrachakra incision followed by excision of the fistulous tract and Ksharasutra procedure yielded better results in terms of postoperative pain reduction, discharge control and wound healing. The study showed highly promising results in reducing the size of the wound, induration and development of healthy granulation tissue along with early healing of the wound.

Keywords: Parisravi Bhagandara, Chandrachakra incision, Kshara

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Introduction

The disease which tears *Bhaga*, *Guda* and *Basti pradesa* is known as *Bhagandara*¹. *Bhagandara* is enumerated as one among the *Ashtamahagada*². It is a *Chedanasadya vyadhi*³. *Bhagandara* is a chronic illness which can be co-related to Fistula in Ano, though it is not fatal but quite discomfiting and troublesome to the patient, imposes a psychological stress on the patient. The incidence of Fistula in Ano developing from an anal abscess range from 26% to 38%, the prevalence rate of Fistula in Ano is 8.6 cases per 100,000 population worldwide. In the men the prevalence is 12.3 cases per 100,000 population and in women it is 5.6 cases per 100,000 population⁴.

Fistula in Ano is an abnormal communication between 2 epithelial lined surfaces i.e., anal canal, rectum, perianal skin having non healing unhealthy granulation tissue. During the last century, numerous surgical procedures like Fistulectomy, Fistulotomy, Advancement Flaps, Fistula Clip Closure, LIFT (Ligation of Intersphincteric Fistula Tract) technique, VAAFT (Vedio Assisted Anal Fistula Treatment) procedure, Anal Fistula Plug Repair, Fibrin Glue and Seton Techniques have been developed, each of these carries significant risk of pain, delayed wound healing, incontinence and reoccurrence⁵. Despite the development of these new techniques, management of Fistula in Ano is still a complex surgical problem. This has led surgeons to switch to alternative treatment methods like *Ksharasutra* procedure.

The prime aim of the treatment is to eradicate the tract and drain all collections from the site of infection while preserving anal continence and minimize the re-occurrence. In the management of *Parisravi Bhagandara* *Acharyas* have described *Chedana karma* for interconnected Low Anal Fistula with different types of incisions namely, *Kharjurapatraka* (v-shape), *Ardhachandra* (semi-lunar), *Chandrachakra* (circular), *Suchimukha* (cone shape), *Avangamukha* incision. In the management of *Bhagandara*, the fistulous track along with cavity should be excised after a specific type of incision followed by *ksharakarma* or *agnikarma*. *Chandrachakra*⁶ - 'Circular' i.e., full

moon shaped incision is adopted in *Fistula in Ano*. This type of incision is taken to open the cavity and then excision is done, followed by *Ksharasutra application*.

Chedana is the main line of treatment in *Bhagandara*. Proper knowledge about the type of incision to be taken, plays an important role before performing any *Chedana karma*. If *Bhedana* (incision) is proper then only one can perform *Chedana karma*, hence type of *Bhedana* need to be considered more important. In *Chandrachakra* (circular) type of incision the external opening has to be excised by creating a bigger track and allowing pus to drain completely to avoid the further recurrence.

This emphasizes *Acharya Sushruta's* wide knowledge about the disease manifestation, management and complications in *Bhagandara*. Hence, this study aims to revalidate the *Chandrachakra* incision followed by *ksharasutra application* in *Parisravi Bhagandara* assessing its effectiveness in modern clinical practice.

OBJECTIVES OF THE STUDY: To Revalidate the *Acharya Sushrutokta Chandrachakra* Incision followed by *Kshara karma* in *Parisravi Bhagandara*. To evaluate the efficacy of *Chandrachakra* Incision in *Parisravi Bhagandara*.

MATERIALS AND METHOD: The ethical clearance was obtained by the Institutional Ethical Committee (JSSAMC/328/2024-25) for the conduction of the study. The trial has been registered in CTRI on 29/06/2025 with registration number CTRI/2025/06/089595.

Source of data:

Literary Source- All classical literature and contemporary texts including the journals and concerned websites were reviewed and documented for the study.

Sample Source- Subjects fulfilling the Diagnostic criteria approaching OPD and IPD of JSS Ayurveda Medical college and Hospital, Mysuru. Medical camps and other referrals were considered.

Inclusion criteria: Subjects aged between 18 to 60 years. Irrespective of Gender, Religion,

Occupation, Place and Socio-economic status. Subjects with *Parisravi Bhagandara* (Low anal Fistula)

Exclusion criteria: High anal fistula. Multiple fistulas. Fistula caused secondary to tuberculosis, crohn's disease, ulcerative colitis. Diagnosed cases of CA of Rectum, Pregnant and lactating women. HIV, HBsAg Uncontrolled DM (HbA1c is more than 6.5 / RBS above 200mg/dL)

Diagnostic criteria: Diagnosis was established by confirming the signs and symptoms of *Parisravi Bhagandara* after thorough clinical examination of the subjects. The subjects with clinical features of presence of external opening near the anal canal along with *Kandu*, *Vedana*, *Srava* which was elicited through Digital per-Rectal examination and Proctoscopic examination.

METHODOLOGY OF CHANDRACHAKRA INCISION

Requirements: Sterile Surgical Gloves, Sterile drapes, Sterile Gauze pieces, Sterile pads, Probe, Sterile kidney tray, hole towel, Cotton swabs, Artery forceps, Allis forceps, BP handle, Surgical blade, Sponge holding forceps, Proctoscope, Sim speculum, Scissors, Bipolar Cautery machine, Betadine and hydrogen peroxide, Lignocaine jelly 2%, 10ml syringes, Gally cup, Surgical spirit, *Apamarga Ksharasutra*

INTERVENTION:

Purva karma (Preoperative procedures)

- Physical fitness obtained from physician.
- Informed consents were taken for surgery.
- Subjects were kept nil by mouth 6 hours prior to surgery.
- Part preparation (perianal area) was done.
- Procto glycerine enemas were given twice before shifting subject to the OT.
- Injection TT 0.5 ml IM Stat.
- Injection Xylocaine test dose 0.1ml S/C.

Pradana karma (Operative procedures):

- Under all aseptic precautions.
- Subjects were shifted to OT, under spinal anaesthesia, subjects were made to lie on lithotomy position.
- Part was painted and draped. Lords four finger anal dilatation was achieved.
- Primary external opening was identified and internal opening was identified with the help of per rectal examination and proctoscope.
- Probing was done with the help of lubricated probe through the external opening, fistula track was identified.
- *Chandrachakra* incision (circular - shaped incision) was done around the external opening of the fistula track.
- The incision was deepened - adhered tissues were dissected, separated the fistula track and plain thread was tied. (After 3 days *Ksharasutra* was tied. *Ksharasutra* was changed weekly once till tract excised completely)
- Complete haemostasis was achieved.
- Wound was packed with *Jatyadi taila*.

Paschat karma:

- Subjects were shifted to post-operative ward.
- Catheterization was done.
- Foot end elevation. Restricted head movement was advised.
- The vitals were monitored every 2nd hourly.
- Liquid diet was started orally after 4 - 6 hours of surgery (appreciable bowel sounds heard).
- Tab. *Gandbaka Rasayana* 500mg (2-0-2) A/F.
- Tab. *Triphala Guggulu* 250mg (2-0-2) A/F.
- Tab. *Anuloma DS* 1200mg (0-0-1) A/F.

- Sitz bath with *Panchavalkala kwatha*.

Assessment Criteria:

Subjective parameters: *Vedana* (Pain), *Srava* (Pus discharge), *Kandu* (Itching).

VEDANA	0	Absence of pain
	1	Mild - pain that can be easily ignored
	2	Moderate - pain that cannot be ignored interferes with function and needs treatment from time to time
	3	Severe - pain not relieved even after using analgesics
KANDU	0	No itching
	1	Mild - Slight, localized itching sensation
	2	Moderate - localized often, itching but does not disturb the sleep
	3	Continuous itching which disturbs the sleep
SRAVA	0	No discharge/dry dressing
	1	Mild - if <i>vrana</i> wets 1 gauze piece of 4x4cm gauze piece
	2	Moderate - if <i>vrana</i> wets 2 gauze pieces of 4x4cm
	3	Severe - if <i>vrana</i> wets more than 2 gauze pieces of 4x4cm.

Objective parameters: Size of the wound, Induration, Granulation tissue.

SIZE OF THE WOUND	0	Healed.
	1	Within 1-2 X 0.5-1 X 0.5-1cms.
	2	Within 2-3 X 1-2 X 1-3cms.
	3	Within 3-5 X 2-4 X 3-6cms.
	4	Within 5-7 X 4-6 X 4-8cms.
INDURATION	0	No induration
	1	Induration up to ½ cm
	2	Induration up to 1cm
	3	Induration up to 2cms or more than 2cms
GRANULATION TISSUE	0	Healthy granulation without slough
	1	Moderate granulation with slough

2	Unhealthy granulation with slough
3	Granulation tissue absent

Observation period: On 1st, 7th, 14th, 21st and 28th day parameters were assessed in specially designed case proforma.

Duration of the study: Total study duration was 42 days.

Follow up of the study: On completion of treatment the subjects visited to the OPD after 15 days.

OBSERVATIONS: A total of 30 subjects were included in the study with no dropouts. Most participants belonged to the 26–35 years age group (33.3%) and males constituted the majority (66.7%). The study population was predominantly Hindu (96.7%), with most being housewives (23.3%) and married (70%). A large proportion belonged to the middle socio-economic class (66.7%), and the habitat distribution was more in urban areas (76.7%).

Clinically, most subjects had acute onset of disease (53.3%), with symptom duration commonly less than a month (73.3%). The majority had no previous surgical history (70%), followed a mixed diet (60%), had a moderate lifestyle (46.7%), and reported irregular sleep patterns (40%), while nearly (33.3%) were tea additives.

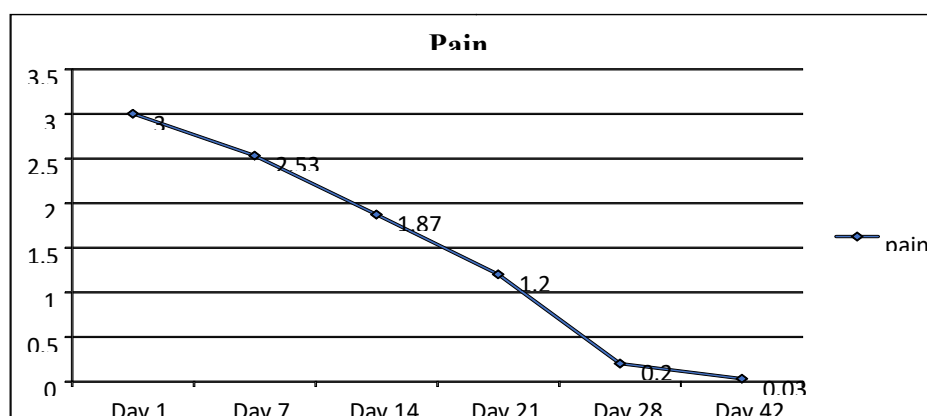
Regarding Ayurveda parameters, most subjects had *Mandagni* (60%), *Madhyama Koshta* (50%),

constipation (76.7%), and a urinary frequency of about five times per day (56.7%), with *Pitta-Kapha Prakruti* being the most common constitution (30%). On local examination, the fistula was most commonly located in the 6'o clock (20%). Maximum subjects had one external opening (86.7%), most had no operated scar mark (66.7%), and moderate discharge (43.3%). The external opening was usually located less than 1.5 inches from the anal verge (76.7%), the tract was more often curved (70%), and the most common tract length was 3–4 cm (30%).

RESULTS: Tests used: Friedman test (follow-up comparisons), Wilcoxon signed rank test (before vs. after).

1. **Pain:** Follow up wise result by Friedman test as follows:

Assessment Period	Mean Rank
Day 1	5.72
Day 7	5.10
Day 14	4.02
Day 21	3.17
Day 28	1.58
Day 42	1.42



A Friedman test was performed to evaluate the changes in pain scores across six assessment periods. The analysis revealed a statistically significant difference in pain scores over time, $\chi^2 (5, N = 30) = 144.671, p < .001$. The mean rank decreased steadily from **5.72** at baseline to **1.42** on Day 42, demonstrating a continuous reduction in pain severity throughout the study period.

Result of before and after treatment by Wilcoxon signed rank test as follows:

Comparison	W-	W+	Z Value	p Value	Bonferroni Interpretation
Day 1 vs Day 28	465.0	0.0	-5.108	<0.001	Significant
Day 1 vs Day 42	465.0	0.0	-5.396	<0.001	Significant

Notably, positive rank sums (W+) were absent in all comparisons, indicating that no subject experienced worsening of pain during the study period. The consistently higher negative rank sums (W-) across all comparisons demonstrate that the observed changes uniformly represented clinical improvement.

2. **Pus discharge:** Follow up wise result by Friedman test as follows:

A Friedman test was conducted to evaluate changes in *Srava* (pus discharge) scores across six assessment periods. The analysis revealed a statistically significant difference in discharge scores over time, $\chi^2 (5, N = 30) = 136.670, p < .001$. The mean rank progressively decreased from **5.87** at baseline to **1.52** on Day 42, indicating continuous reduction in discharge throughout the study period.

Result of before and after treatment by Wilcoxon signed rank test as follows:

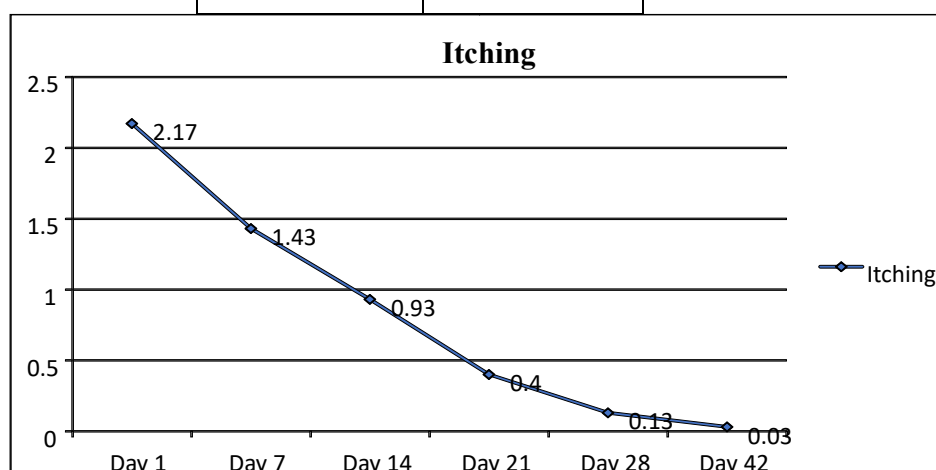
Assessment Period	Mean Rank
Day 1	5.87
Day 7	4.92
Day 14	3.82
Day 21	2.93
Day 28	1.95
Day 42	1.52

Comparison	W-	W+	Z Value	p Value	Bonferroni Interpretation
Day 1 vs Day 28	465.0	0.0	-4.909	<0.001	Significant
Day 1 vs Day 42	465.0	0.0	-5.066	<0.001	Significant

Notably, positive rank sums (W+) were absent in all pairwise comparisons, indicating that none of the subjects experienced worsening of discharge during the study period. The consistently higher negative rank sums (W-) demonstrate uniform clinical improvement and progressive resolution of *Srava* among the study participants.

3. **Itching:** Follow up wise result by Friedman test as follows:

Assessment Period	Mean Rank
Day 1	5.87
Day 7	4.83
Day 14	3.83
Day 21	2.58
Day 28	2.02
Day 42	1.87



A Friedman test was conducted to evaluate changes in *Kandu* scores across six assessment periods. The analysis revealed a statistically significant difference in itching scores over time, $\chi^2 (5, N = 30) = 133.316$, $p < .001$. The mean rank decreased progressively from **5.87** at baseline to **1.87** on Day 42, indicating continuous improvement in itching throughout the study period.

Result of before and after treatment by Wilcoxon signed rank test as follows:

Comparison	W-	W+	Z Value	p Value	Bonferroni Interpretation
Day 1 vs Day 28	465.0	0.0	-5.150	<0.001	Significant
Day 1 vs Day 42	465.0	0.0	-5.106	<0.001	Significant

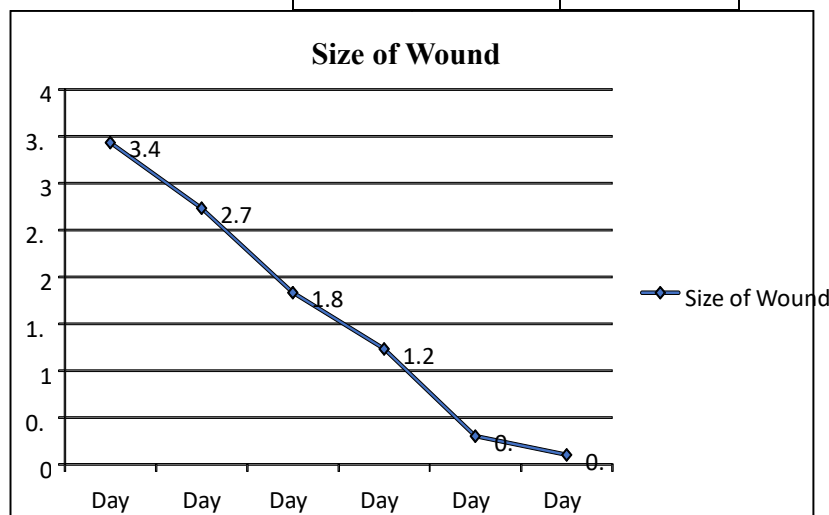
Notably, positive rank sums (W+) were absent in all pairwise comparisons, indicating that none of the subjects experienced worsening of itching during the study period. The consistently higher negative rank sums (W-) confirm that the observed changes uniformly reflected clinical improvement.

Assessment Period	Mean Rank
Day 1	5.85

4. **Size of the wound:**
Friedman test as follows:

Day 7	5.08
Day 14	3.83
Day 21	3.18
Day 28	1.65
Day 42	1.40

Follow up wise result by



A Friedman test was conducted to evaluate changes in wound size scores across six assessment periods. The analysis demonstrated a statistically significant difference in wound size over time, $\chi^2 (5, N = 30) = 145.241, p < .001$. The mean rank progressively decreased from 5.85 at baseline to 1.40 on Day 48, indicating continuous reduction in wound size throughout the treatment period.

Result of before and after treatment by Wilcoxon signed rank test as follows:

Comparison	W-	W+	Z Value	p Value	Bonferroni Interpretation
Day 1 vs Day 28	465.0	0.0	-4.867	<0.001	Significant
Day 1 vs Day 42	465.0	0.0	-4.890	<0.001	Significant

Notably, positive rank sums (W+) were absent in all pairwise comparisons, indicating that none of the subjects exhibited an increase in wound size during the study period. The consistently higher negative rank sums (W-) demonstrate uniform clinical improvement and progressive wound healing among the study participants.

5. **Induration:** Follow up wise result by Friedman test as follows:

A Friedman test was conducted to evaluate changes in induration scores across six assessment periods. The analysis demonstrated a statistically significant difference in induration scores over time, $\chi^2 (5, N = 30) = 128.502, p < .001$. The mean rank progressively decreased from 5.85 at baseline to 2.10 on Day 42, indicating continuous reduction in induration throughout the treatment period. These findings suggest that the intervention was associated with significant resolution of induration among subjects with *Parisravi Bhagandara*.

Result of before and after treatment by Wilcoxon signed rank test as follows:

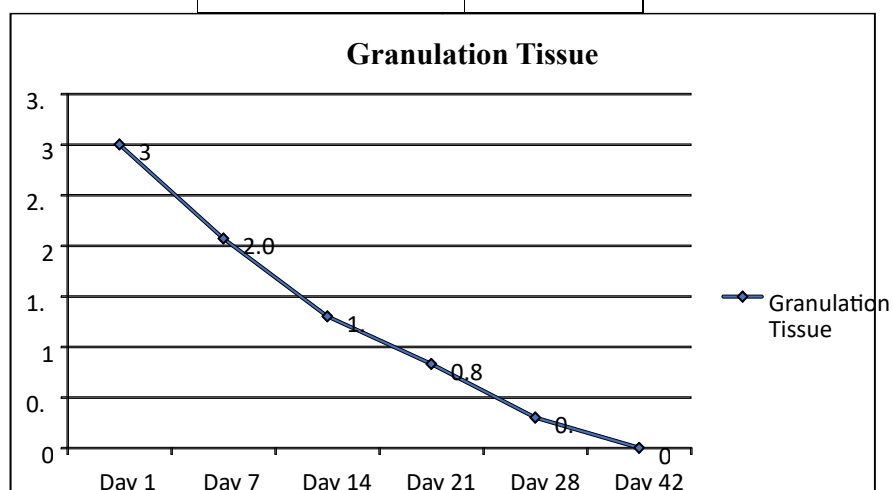
Assessment Period	Mean Rank
Day 1	5.85
Day 7	4.75
Day 14	3.63
Day 21	2.53
Day 28	2.13
Day 42	2.10

Comparison	W-	W+	Z Value	p Value	Bonferroni Interpretation
Day 1 vs Day 28	435.0	0.0	-4.860	<0.001	Significant
Day 1 vs Day 42	435.0	0.0	-4.844	<0.001	Significant

Notably, positive rank sums (W+) were absent in all pairwise comparisons, indicating that none of the subjects exhibited worsening of induration during the study period. The consistently higher negative rank sums (W-) demonstrate uniform clinical improvement and progressive resolution of induration among the study participants.

6. **Granulation tissue:** Follow up wise result by Friedman test as follows:

Assessment Period	Mean Rank
Day 1	5.95
Day 7	4.93
Day 14	3.82
Day 21	2.90
Day 28	1.92
Day 42	1.48



A Friedman test was conducted to evaluate changes in granulation tissue scores across six assessment periods. The analysis demonstrated a statistically significant difference in granulation tissue scores over time, $\chi^2 (5, N = 30) = 140.165, p < .001$. The mean rank progressively decreased from **5.95** at baseline to **1.48** on Day 42, indicating continuous improvement in granulation tissue throughout the study period.

Result of before and after treatment by Wilcoxon signed rank test as follows:

Comparison	W-	W+	Z Value	p Value	Bonferroni Interpretation
Day 1 vs Day 28	465.0	0.0	-5.007	<0.001	Significant
Day 1 vs Day 42	465.0	0.0	-5.477	<0.001	Significant

Notably, positive rank sums (W+) were absent in all pairwise comparisons, indicating that none of the subjects exhibited worsening of granulation tissue during the study period. The consistently higher negative rank sums (W-) demonstrate uniform clinical improvement and progressive wound healing among the study participants.

Overall Assessment .

Overall Assessment	Frequency (n)	Percentage (%)
Cured	24	80.0
Good Improvement	6	20.0
Total	30	100.0

Discussion:

Parisravi Bhagandara is one among the *Bhagandara* caused by vitiated *kapha*. It exudates large amount of *Picchila Srava*, *Sthira*, *Shweta kandumati pidaka* and *Manda Vedana*.⁷ Hence, clinically can be correlated with a low anal fistula with profuse discharge. Acharya has told incisions like *Kharjura patra*, *Chandrardha*, *Chandrachakra*, *Suchimukha* and *Avangamukha* for the *Parisravi Bhagandara*⁸ which is clinically co-related to low anal fistula.

This single-arm clinical study evaluated the efficacy of *Sushrutokta Chandrachakra* incision followed by *Ksharakarma* in 30 patients of *Parisravi Bhagandara*. *Chandrachakra* type of incision helps in adequate exposure of the fistulous tract and associated cavity, enabling complete drainage of pus and excision of unhealthy granulation tissue. *Kshara* possesses *Ksharana* and *Kshanana* properties, which help in debridement, scraping

of unhealthy tissue, destruction of residual infected tissue and promotion of healthy wound healing.

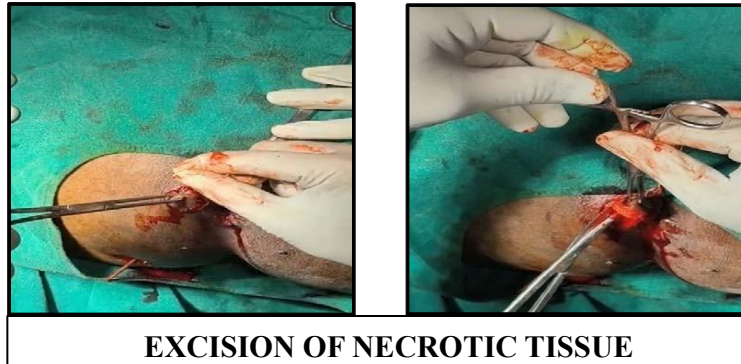
The intervention produced statistically highly significant improvements in pain (93.33%), discharge (89.16%), itching (94%), wound size (91.25%), induration (98.63%), and granulation tissue formation (90%).

Based on the results of all the evaluated parameters, *Chandrachakra* incision followed by *Ksharasutra* was found to be significantly effective in the management of *Parisravi Bhagandara* (Fistula-in-Ano). The study demonstrated highly significant improvements in reducing *Vedana* (pain), *Srava* (discharge) and *kandu* (itching) along with a reduction in wound size and induration, enhanced formation of healthy granulation tissue and early wound healing.

Conclusion:

The present clinical study was undertaken to Revalidate the efficacy of *Susbrutokta Chandrachakra* Incision followed by *Ksharakarma* in the management of *Parisravi Bhagandara* in 30 subjects.

This study revalidated the *Chandrachakra* incision, showed highly significant results in reducing *Vedana*, *Srava* and *Kandu*, size of the wound, induration and development of healthy granulation tissue along with early healing of the wound.

**ANNEXURE:****KSHARASUTRA APPLICATION****DAY 14****DAY 21****DAY 28****DAY 42**

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Conflicts of interest: There are no conflicts of interest.

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