

“A Clinical Comparative Study on the Efficacy of Meshroma Mashyadi Taila Varti and Jatyadi Taila Varti in the Management of Nadi Vrana w.s.r. to Sinus”

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Abstract

Background

Nadi Vrana is a chronic suppurative condition described in Ayurvedic classics and is characterized by the formation of a tubular structure associated with persistent discharge, pain, inflammation, and delayed healing. The condition closely resembles sinus pathology described in contemporary surgery. Despite advancements in modern surgical management, recurrence, prolonged healing time, postoperative discomfort, and repeated interventions continue to pose significant therapeutic challenges. Ayurveda offers several treatment modalities for Nadi Vrana, among which Varti Prayoga occupies an important place because of its Shodhana (cleansing) and Ropana (healing) properties. Meshroma Mashyadi Taila Varti and Jatyadi Taila Varti are classical formulations recommended for chronic sinus disorders, but comparative clinical evidence regarding their efficacy remains limited.

Aim-To compare the clinical efficacy of Meshroma Mashyadi Taila Varti and Jatyadi Taila Varti in the management of Nadi Vrana (Sinus).

Materials and Methods

A randomized comparative clinical study was conducted on 100 patients diagnosed with Nadi Vrana. Patients were randomly allocated into two groups of 50 patients each. Group A received Meshroma Mashyadi Taila Varti, whereas Group B received Jatyadi Taila Varti. Clinical assessment was carried out before treatment and after treatment using subjective and objective parameters including pain, tenderness, discharge, local temperature, itching, burning sensation, surrounding skin condition, and sinus length. Data were analyzed statistically to evaluate therapeutic efficacy.

Results

Both treatment modalities demonstrated significant improvement in clinical manifestations of Nadi Vrana. However, Meshroma Mashyadi Taila Varti showed comparatively superior results in reduction of few symptoms like and acceleration of wound healing by its stronger Shodhana, Lekhana, and Krimighna properties, which facilitate more effective cleansing of the tract and promotion of healthy tissue regeneration. While Jatyadi Taila was more effective in controlling of local temperature, burning sensation, and itching

Conclusion

Both formulations were effective in the management of Nadi Vrana.

Keywords

Nadi Vrana, Sinus, Ayurveda, Shalya Tantra, Varti Kalpana, Meshroma Mashyadi Taila Varti, Jatyadi Taila Varti, Wound Healing.

How to cite this article: Praveen PK, Patel A. A Clinical Comparative Study on the Efficacy of Meshroma Mashyadi Taila Varti and Jatyadi Taila Varti in the Management of Nadi Vrana w.s.r. to Sinus. *Int J Drug Deliv Technol.* 2026;16(62s): 1885-1897. DOI: 10.25258/ijddt.16.62s.189

Source of support: Nil.

Conflict of interest: None.

1. Introduction

Ayurveda, the traditional system of Indian medicine, is regarded as the science of life and longevity. It encompasses comprehensive knowledge related to health promotion, disease prevention, and treatment of various disorders. Among the eight classical branches of Ayurveda, Shalya Tantra occupies a unique position due to its emphasis on surgical principles, wound management, extraction of foreign bodies, and para-

surgical procedures such as Kshara Karma, Agni Karma, and Varti Prayoga. These therapeutic modalities have significantly contributed to the development of Ayurvedic surgery and wound care. [1-3]

Vrana is one of the most extensively discussed topics in Shalya Tantra. The term Vrana refers to a breach in the continuity of body tissues resulting from injury, trauma, inflammation, or pathological processes.

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Acharya Sushruta described Vrana as a condition that leaves a permanent scar even after complete healing. Based on etiology and pathological involvement, Vrana has been classified into Shuddha Vrana and Dushta Vrana. Shuddha Vrana represents a healthy wound with favorable healing potential, whereas Dushta Vrana refers to an infected, chronic, or non-healing ulcer characterized by discharge, pain, inflammation, tissue destruction, and delayed healing. [4-6]

Among the various forms of Dushta Vrana described in Ayurvedic literature, Nadi Vrana occupies an important place because of its chronic nature and therapeutic challenges. Acharya Sushruta explained that when an inflammatory swelling (Vrana Shopha) is inadequately treated, incised prematurely, or neglected after suppuration, accumulated pus penetrates deeper tissues and progressively destroys surrounding structures. The purulent material advances through tissue planes and forms a tubular tract. Owing to its tubular configuration and continuous discharge, the condition is termed Nadi Vrana. [7]

The word “Nadi” denotes a tubular or hollow channel resembling a reed. Therefore, Nadi Vrana literally signifies an ulcer associated with a tract extending into deeper tissues. Classical descriptions of Nadi Vrana closely resemble the modern surgical concept of a sinus. A sinus is defined as a blind tract extending from the skin surface into deeper tissues and lined by granulation tissue or epithelium. Persistent infection, retained foreign bodies, fibrosis, inadequate drainage, and chronic inflammation are major factors responsible for its development and recurrence. [8-10]

Sinus disease remains a significant surgical problem throughout the world. Among various forms of sinus disease, pilonidal sinus, perianal sinus, and perineal sinus are frequently encountered in clinical practice. Epidemiological studies have demonstrated higher incidence among young and middle-aged adults, particularly males. Recurrence following conventional surgery remains a major concern, with reported recurrence rates ranging from 10% to 30% in different studies. Extensive surgical excision often results in prolonged hospitalization, delayed healing, postoperative discomfort, and increased economic burden. [11-13]

Modern surgical management includes incision and drainage, curettage, excision of the sinus,

marsupialization, flap procedures, and antibiotic therapy. Although these approaches can be effective, they are associated with several limitations. Complete identification and removal of multiple branching tracts may be difficult. Postoperative wounds often require prolonged dressing and follow-up. Maintenance of local hygiene is particularly challenging in anorectal and perineal sinus disease because of constant contamination. Moreover, recurrence continues to be a major problem despite advancements in surgical techniques. [14-16]

Ayurveda offers a comprehensive approach to the management of Nadi Vrana through Shodhana and Ropana therapies. Classical texts recommend various treatment modalities including Bhaishajya Chikitsa, Kshara Karma, Agni Karma, Shastra Karma, and Varti Prayoga. Among these, Varti therapy occupies a prominent position because it combines mechanical drainage with localized drug delivery. Varti facilitates removal of purulent material, slough, and unhealthy tissue while simultaneously promoting healthy granulation and tissue regeneration. [17-19]

Varti Kalpana represents a specialized pharmaceutical preparation designed for local therapeutic application. In the management of Nadi Vrana, medicated Varti is inserted into the sinus, allowing sustained contact of medicinal agents with diseased tissues. This not only facilitates drainage but also provides continuous pharmacological action within the tract. Owing to its simplicity, minimal invasiveness, cost-effectiveness, and outpatient applicability, Varti therapy has gained considerable importance in Ayurvedic surgical practice. [20-22]

Bhavaprakasha specifically mentions Meshroma Mashyadi Taila Varti and Jatyadi Taila Varti for the management of Nadi Vrana. Meshroma Mashyadi Taila Varti is traditionally indicated for chronic sinus and possesses potent Shodhana, Lekhana, and Ropana properties. Jatyadi Taila Varti, a well-established wound-healing formulation, contains several herbal ingredients known for their antimicrobial, anti-inflammatory, antioxidant, and tissue regenerative activities. Both formulations have been used extensively in Ayurvedic clinical practice; however, comparative scientific evaluation remains limited. [23-25]

The increasing global interest in evidence-based traditional medicine necessitates systematic clinical evaluation of classical Ayurvedic therapies. Therefore,

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the present study was undertaken to compare the clinical efficacy of Meshroma Mashyadi Taila Varti and Jatyadi Taila Varti in the management of Nadi Vrana (Sinus). The study aims to generate clinical evidence regarding their therapeutic utility and contribute to the development of effective, economical, and minimally invasive treatment strategies for chronic sinus disorders.

2. Aim and Objectives

Aim of the Study

To compare the clinical efficacy of Meshroma Mashyadi Taila Varti and Jatyadi Taila Varti in the management of Nadi Vrana (Sinus).

Objectives

- To study and analyze the Ayurvedic concept, etiopathogenesis, and management of Nadi Vrana.
- To correlate Nadi Vrana with the modern concept of sinus disease.
- To evaluate the clinical efficacy of Meshroma Mashyadi Taila Varti in the management of Nadi Vrana.
- To evaluate the clinical efficacy of Jatyadi Taila Varti in the management of Nadi Vrana.
- To compare the therapeutic outcomes of both interventions using subjective and objective clinical parameters.
- To assess the safety, acceptability, and practical applicability of Varti therapy in chronic sinus disorders.

3. Materials and Methods

Study Design

A randomized comparative clinical study was conducted to evaluate and compare the efficacy of Meshroma Mashyadi Taila Varti and Jatyadi Taila Varti in patients diagnosed with Nadi Vrana.

Study Setting

The study was carried out in the Department of Shalya Tantra and associated outpatient and inpatient facilities after obtaining necessary institutional approval.

Sample Size

A total of 100 patients fulfilling the diagnostic criteria of Nadi Vrana were enrolled in the study.

Grouping

The patients were randomly divided into two groups:

Group A (n = 50)

Patients were treated with Meshroma Mashyadi Taila Varti.

Group B (n = 50)

Patients were treated with Jatyadi Taila Varti.

Inclusion Criteria

- Patients diagnosed clinically as Nadi Vrana.
- Age between 20 and 60 years.
- Both male and female patients.
- Sinus less than 5 cm.
- Patients willing to participate and provide informed consent.

Exclusion Criteria

- Malignant sinus.
- Tubercular sinus.
- Osteomyelitis-associated sinus.
- Severe systemic disorders.
- Immunocompromised patients.
- Patients unwilling to participate in the study.

Study duration

60 days

Observation

Once in three days for 10 seating or up to complete healing of tract.

Follow up

Weekly once for maximum 4 sitting up to one months.

Posology

The Varti was changed on an interval of two days (i.e. on every third days) for maximum 30 days or up to the completion of tract healing if tract heals within 30days.

Intervention Procedure

After proper cleaning and probing of the sinus under aseptic precautions, the medicated Varti was inserted into the tract.

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Group A

Meshroma Mashyadi Taila Varti was inserted into the sinus and changed according to the treatment schedule.

Group B

Jatyadi Taila Varti was inserted using the same procedure and follow-up protocol.

Assessment Criteria

All parameter excluding length were graded with 0 to 3 (0, 1, 2, 3) where 0 denotes no complain or abnormality and 3 was greater complain.

Subjective Parameters

Pain

Burning sensation

Itching

Objective Parameters

Length of sinus

Discharge

Local temperature

Tenderness

Condition of surrounding skin

Statistical Analysis

The collected data were subjected to appropriate statistical analysis.

Mean and Standard Deviation (SD) were calculated.

Intragroup comparisons were performed using paired statistical tests.

Intergroup comparisons were performed using unpaired statistical tests.

Statistical significance was considered at $p < 0.05$.

4. Results

Demographic Observations

A total of 100 patients were enrolled and completed the study. Fifty patients were allocated to Group A and fifty patients to Group B.

Distribution According to Sex

Among the study population, 53% were males and 47% were females, indicating a slight male predominance. The higher incidence among males may be attributed to greater occupational exposure, physical activity, and susceptibility to perineal and pilonidal sinus disorders.

Distribution According to Age

The majority of patients belonged to the age groups of 40–49 years (31%) and 50–59 years (34%). These findings indicate that Nadi Vrana predominantly affects the economically productive age group.

Distribution According to Religion

The majority of patients belonged to the Hindu community (81%), while 19% were Muslims. This distribution reflects the demographic characteristics of the study area rather than any disease-specific predisposition.

Distribution According to Diet

Mixed dietary habits were observed in 55% of patients, whereas 45% followed a vegetarian diet. Improper dietary habits may contribute to Dosha imbalance and delayed wound healing.

Distribution According to Marital Status

Married individuals constituted 82% of the study population, while 18% were unmarried.

Distribution According to Occupation

The largest occupational groups included housewives (35%) and employees (24%), followed by students, businessmen, laborers, and drivers.

Distribution According to Socioeconomic Status

Most patients belonged to lower-middle (46%) and upper-middle (33%) socioeconomic classes. Poor socioeconomic conditions may contribute to delayed treatment seeking and inadequate wound care.

Distribution According to Family History

Only 6% of patients reported a positive family history, whereas 94% had no family history of the disease.

Distribution According to Agni

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Samagni was observed in 45% of patients, followed by Mandagni (23%), Vishamagni (17%), and Tikshnagni (15%).

Distribution According to Kostha

Madhyama Kostha was the predominant type (46%), followed by Mridu Kostha (26%) and Krura Kostha (18%).

Distribution According to Prakriti

Vata-Kaphaja Prakriti was the most common constitutional type, followed by Vata-Pittaja and Kaphaja Prakriti.

Distribution According to Chronicity

Most patients reported disease duration between 7 and 12 months, indicating the chronic nature of Nadi Vrana.

Distribution According to Site

Perineal sinus (40%) was the most common site, followed by perianal sinus (37%) and pilonidal sinus (23%).

Distribution According to Length of Sinus

The majority of sinus measured between 2.1 and 3 cm, suggesting moderate disease severity in most patients.

Therapeutic Outcome

Both treatment groups demonstrated improvement in all assessed parameters.

Length of Sinus

In both the Group the average rate of healing was approximately same that is in Group A rate of healing was 2.5 and in Group b the rate of healing was 3 and also the average unit healing time was almost same that is 4.23 in Group A and 4.01 in Group B.

Pain

Pain scores decreased significantly in both groups. However, greater reduction was observed in Group A.

The data suggest that in Group A initially, before treatment there was 16 % (8 Patients) have no Pain which means 84% (42 Patients) suffered from Pain and after the treatment the number of Patients with no Pain increases to 88 % and the same after the follow up was 92%. Similarly the incidence of Pain was absent in 16 % of the Patient which increase to 84%

after treatment and the same is 92 % (46 Patients) after the follow up in Group B.

Tenderness

Tenderness improved markedly following treatment in both groups

The data for Tenderness suggests that before treatment, the Tenderness was present in all Patients, after treatment 52 % Patients recover from Tenderness and after follow up 90% Patients recovered from Tenderness in Group A. Similarly in Group B, all Patients complains of Tenderness out of them 66 % become free from Tenderness after treatment and after follow up period 88 % Patients does not feel Tenderness.

Local Temperature

Reduction in local inflammatory signs was observed in both groups, reflecting effective control of inflammation. The data shows that there was increase in Local Temperature in 74% of total Patients before treatment and after treatment there was no increase of Local Temperature in 84 % Patient (42 in number) which becomes 92 % after follow up in Group A. Similarly in Group B there was 62% Patient which shows increase of Local Temperature before treatment and after treatment all Patients became free from increase of Local Temperature but there was again 6% Patient who again develop increase in Local Temperature after follow up.

Burning Sensation

Both interventions significantly reduced burning sensation associated with chronic inflammation. Data shows that initially Burning Sensation was present in 74% Patient and after treatment 82% Patient were free from Burning Sensation at last after follow up 92% Patient have no complain of Burning Sensation in Group A. Similarly in Group B the data for absence of Burning Sensation increases from 36% (BT) to 98 % after treatment and after follow up the same slightly reduced to 94%.

Itching

Relief from itching was observed in both treatment groups, indicating improvement in local tissue health.

Data shows that there was incidence of no Itching was 20% which increases to 54% after treatment and to 90% after follow up in Group A and the same increases

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from before treatment data of 30% to 94% after treatment and became 96% after follow up in Group B.

Discharge

Reduction in purulent discharge was one of the most notable findings. Group A demonstrated comparatively greater reduction, suggesting enhanced cleansing action.

Initially there was Discharge in 92% Patient before treatment which became 00 after treatment but during follow up the Discharge reoccurs in 4% Patient in Group A, and in Group B initially only 8% Patient have no Discharge which changed to 98 % after

treatment and slightly reduced to 92 % after follow up.

Surrounding Skin Condition

Marked improvement in the condition of surrounding skin was observed in both groups as healing progressed.

The data shows that before treatment there are 10% Patient which comes under 0 Grade and after treatment the % of patient increases to 44 % in Grade 0 and the same was 84 % after follow up in case of Group A. the Group B data suggest before treatment 34 % were in Grade 0 but after treatment 56% and after follow up 88 % Patients were under.

Statistical Outcome

Table no. 1- Comparison of different parameter in group A (BT-AT)

PARAMETER	MEAN		REDUCTION %	± SD	± SE	T	P	REMARKS
	BT	AT						
LENGTH	2.568	0.3	88	0.594	0.084	26.97	<0.0001	HS
PAIN	1.18	0.12	90	0.682	0.097	10.98	<0.0001	HS
TENDERNESS	1.840	0.52	72	0.587	0.083	15.90	<0.0001	HS
LOCAL TEMPERATURE	1.00	0.16	84	0.710	0.100	8.36	<0.0001	HS
BURNING SENSATION	1.04	0.3	71	0.828	0.117	6.317	<0.0001	HS
ITCHING	1.2	0.61	49	0.948	0.134	4.478	<0.0001	HS
DISCHARGE	1.46	00	100	0.734	0.103	14.06	<0.0001	HS
SURROUNDING SKIN	1.44	0.6	58	0.618	0.087	9.610	<0.0001	HS

The results of Group A showed highly significant improvement in all assessed parameters after treatment. The mean wound Length was reduced by 88%, indicating excellent wound healing. Pain, Itching, and Discharge were reduced by 90%, 49% and 100% respectively, while Tenderness and Burning Sensation showed reductions of 72% and 71%, respectively. Local Temperature decreased by 84%, suggesting a reduction in inflammation. Improvement in the condition of the Surrounding Skin was observed by 58%. Statistical analysis revealed highly significant results for all parameters ($p < 0.0001$), indicating that the treatment administered in Group A was effective in reducing the signs and symptoms of the Nadi Vrana.

Table no. 2- Comparison of different parameter in group A (BT-AF)

PARAMETER	MEAN		REDUCTION %	± SD	± SE	T	P	REMARKS
	BT	AF						
LENGTH	2.568	0.14	95	0.779	0.110	22.02	<0.0001	HS
PAIN	1.18	0.10	92	0.695	0.098	10.99	<0.0001	HS
TENDERNESS	1.840	0.2	89	0.693	0.098	16.74	<0.0001	HS
LOCAL TEMPERATURE	1.00	0.12	88	0.718	0.101	8.663	<0.0001	HS
BURNING SENSATION	1.04	0.1	90	0.843	0.119	7.885	<0.0001	HS
ITCHING	1.2	0.12	92	0.829	0.117	9.211	<0.0001	HS
DISCHARGE	1.46	0.1	93	0.721	0.10	13.33	<0.0001	HS
SURROUNDING SKIN	1.44	0.26	82	0.661	0.093	12.63	<0.0001	HS

During follow-up, Group A continued to show significant improvement in all parameters. The results of Group A showed highly significant improvement in all assessed parameters after follow up also. The mean wound Length was reduced by 95%, indicating excellent wound healing. Pain and Itching were reduced by 92%, while Tenderness and Burning Sensation showed reductions of 89% and 90%, respectively. Local Temperature decreased by 88%, suggesting a reduction in inflammation. Improvement in the condition of the Surrounding Skin was observed by 82%. Reduction in discharge was 93%. Statistical analysis revealed highly significant results for all parameters ($p < 0.0001$), indicating that the treatment administered in Group A was effective in reducing the signs and symptoms of the condition.

Table no. 3 comparison of different parameter in group B (BT-AT):

PARAMETER	MEAN		REDUCTION %	± SD	± SE	T	P	REMARKS
	BT	AT						
LENGTH	2.468	0.27	89	0.621	0.088	25.02	<0.0001	HS
PAIN	1.24	0.16	87	0.634	0.089	12.05	<0.0001	HS
TENDERNESS	1.98	0.42	79	0.579	0.083	18.73	<0.0001	HS
LOCAL TEMPERATURE	0.88	0.00	100	0.799	0.113	7.78	<0.0001	HS
BURNING SENSATION	1.2	0.02	98	1.044	0.147	7.994	<0.0001	HS
ITCHING	0.82	0.06	93	0.625	0.088	8.603	<0.0001	HS

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DISCHARGE	1.56	0.02	99	0.843	0.12	12.88	<0.0001	HS
SURROUNDING SKIN	0.92	0.16	83	0.625	0.088	8.603	<0.0001	HS

The findings of Group B demonstrated highly significant improvement in all clinical parameters following treatment. Complete reduction of Local Temperature (100%) was observed, indicating effective control of inflammation. Burning Sensation and Discharge were reduced by 98% and 99%, respectively. Itching showed 93% improvement, while wound Length, Pain, and Tenderness were reduced by 89%, 87%, and 79%, respectively. Improvement in the Surrounding Skin condition was observed by 50%. Statistical analysis showed highly significant results for all parameters ($p < 0.0001$), confirming the effectiveness of the treatment used in Group B.

Table no. 4- comparison of different parameter in group B (BT-AF)

PARAMETER	MEAN		REDUCTION %	± SD	± SE	T	P	REMARKS
	BT	AF						
LENGTH	2.468	0.15	94	0.772	0.109	21.17	<0.0001	HS
PAIN	1.24	0.16	87	0.752	0.106	10.16	<0.0001	HS
TENDERNESS	1.98	0.2	90	0.654	0.093	19.00	<0.0001	HS
LOCAL TEMPERATURE	0.88	0.06	93	0.748	0.106	7.76	<0.0001	HS
BURNING SENSATION	1.2	0.08	93	1.023	0.145	7.742	<0.0001	HS
ITCHING	0.82	0.04	95	0.648	0.092	8.510	<0.0001	HS
DISCHARGE	1.56	0.1	94	0.767	0.109	13.42	<0.0001	HS
SURROUNDING SKIN	0.92	0.16	83	0.625	0.088	8.603	<0.0001	HS

At follow-up, Group B maintained substantial improvement in all parameters. Itching showed the highest reduction (95%), followed by wound Length and Discharge (94% each). Local Temperature and Burning Sensation were reduced by 93%, while Tenderness improved by 90%. Pain showed an 87% reduction, and Surrounding Skin changes improved by 83%. All changes were highly significant statistically ($p < 0.0001$), indicating that the therapeutic effects of the treatment were sustained during the follow-up period

Table no. 5- Comparison of mean and statistical analysis of all parameter in group A and group B

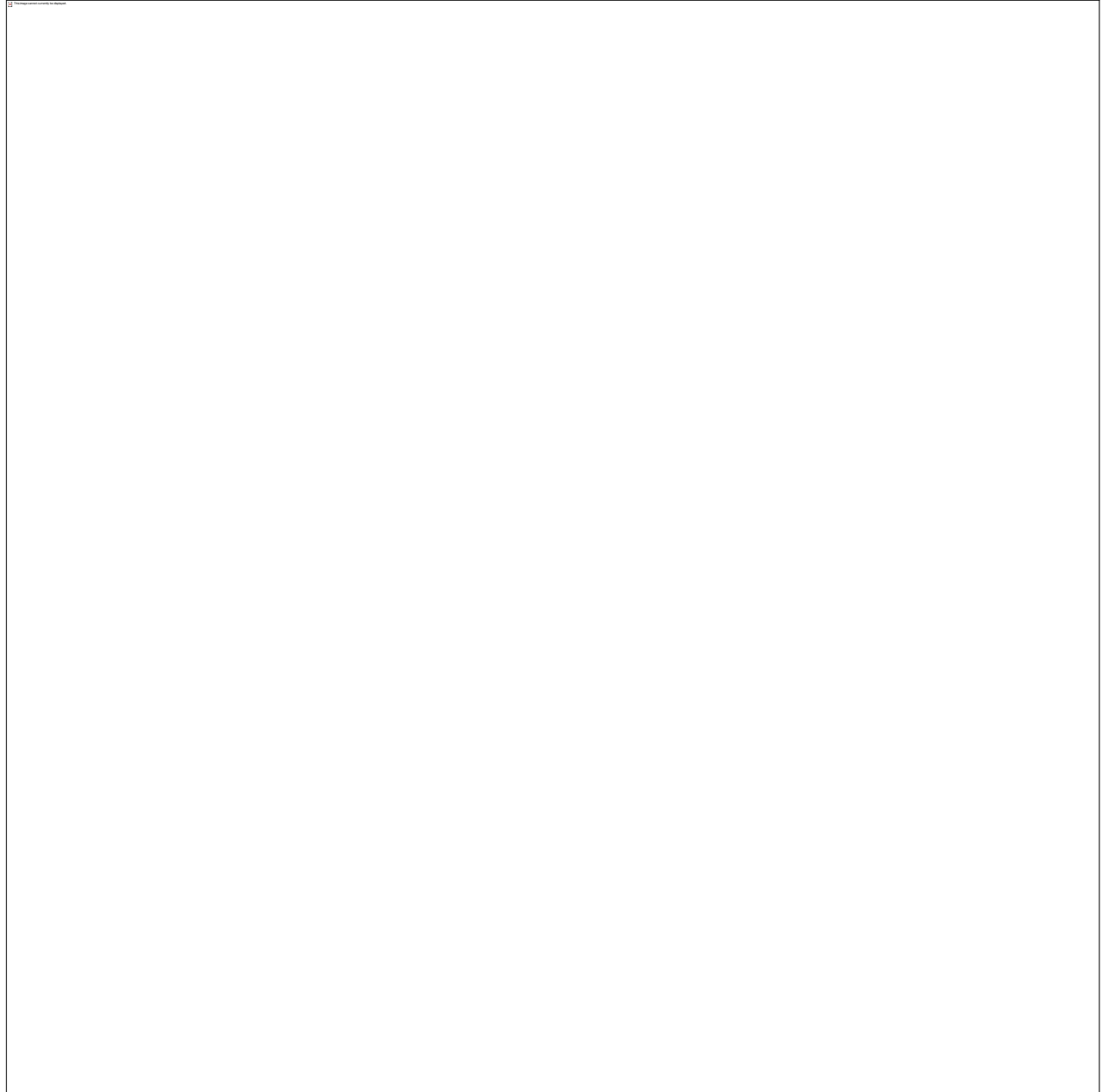
PARAMETER	GROUP A		GROUP B		SE	T	P	REMARKS
	MEAN	SD	MEAN	SD				
LENGTH	0.30	0.58	0.27	0.52	0.111	0.253	0.8	NS

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PAIN	0.12	0.33	0.16	0.37	0.07	0.571	0.57	NS
TENDERNESS	0.52	0.58	0.42	0.64	0.122	0.82	0.4	NS
LOCAL TEMPERATURE	0.16	0.37	00	00	0.052	3.055	<0.05	S
BURNING SENSATION	0.3	0.54	0.02	0.14	0.08	3.52	<0.05	S
ITCHING	0.61	0.73	0.06	0.24	0.11	5.031	<0.05	S
DISCHARGE	00	00	0.02	0.14	0.02	1	0.32	NS
SURROUNDING SKIN	0.6	0.57	0.46	0.54	0.111	1.26	0.212	NS

On intergroup comparison, both Groups demonstrated comparable results in reducing wound Length, Pain, Tenderness, Discharge, and Surrounding Skin changes, as the differences between the Groups were statistically non-significant ($p > 0.05$). However, Group B showed significantly better improvement in Local Temperature, Burning Sensation, and Itching when compared with Group A ($p < 0.05$). These findings suggest that while both treatments were effective in promoting wound healing and reducing symptoms, the treatment used in Group B was comparatively more effective in controlling inflammation and associated symptoms such as Burning Sensation and Itching of Nadi Vrana.

Figure 1- Treatment protocols and results of a patient with 3.6 cm long sinus tract at perianal region treated by Meshroma Mashyadi Taila Varti.



5. Discussion

Nadi Vrana is one of the most challenging disorders described under Dushta Vrana in Ayurvedic literature. Acharya Sushruta has explained that improper management of Vrana Shopha results in the formation of a chronic tubular tract carrying purulent material, which is termed Nadi Vrana. The disease is characterized by persistent discharge, pain, tenderness, inflammation, tissue destruction, and delayed healing. Classical descriptions of Nadi Vrana

closely resemble the modern surgical concept of a sinus.¹⁻⁴

The present study was undertaken to compare the efficacy of Meshroma Mashyadi Taila Varti and Jatyadi Taila Varti in the management of Nadi Vrana. A total of 100 patients were enrolled and randomly allocated into two treatment groups consisting of 50 patients each.

Discussion on Demographic Findings

The majority of patients belonged to the age group of 40–59 years. This observation suggests that Nadi Vrana is more common among the economically productive age group. Individuals in this age range are frequently exposed to occupational stress, prolonged sitting, excessive physical activity, and inadequate attention to minor infections and wounds, which may contribute to sinus formation and chronicity.

A slight male predominance was observed in the study. Similar findings have been reported in modern literature on pilonidal and perianal sinus disorders. Increased body hair, greater outdoor activity, prolonged sitting, sweating, and occupational exposure may contribute to the higher incidence among males.^{5–7}

The majority of patients belonged to lower-middle and upper-middle socioeconomic classes. Limited access to healthcare facilities, delayed treatment seeking, poor local hygiene, and inadequate wound care may contribute to disease progression and persistence in these populations.

Perineal and perianal regions constituted the most common sites of Nadi Vrana. These anatomical areas are particularly vulnerable because of constant moisture, friction, contamination, and microbial colonization. Such factors create favorable conditions for chronic inflammation and sinus formation.

Discussion on Therapeutic Effects

Effect on Pain

Pain is one of the cardinal symptoms of Nadi Vrana and results primarily from chronic inflammation, edema, tissue tension, and persistent infection. Both treatment groups demonstrated significant reduction in pain following therapy.

The superior reduction observed in Group A may be attributed to the potent Shodhana and anti-inflammatory properties of Meshroma Mashyadi Taila. Effective drainage of accumulated discharge reduces tissue pressure and inflammation, thereby relieving pain.

Effect on Tenderness

Tenderness is a manifestation of local inflammation and tissue irritation. Both interventions significantly reduced tenderness. However, Meshroma Mashyadi Taila Varti showed comparatively greater improvement.

The reduction in tenderness may be explained by decreased inflammatory activity, improved drainage of exudates, and enhanced healing of damaged tissues.

Effect on Discharge

Persistent discharge is one of the most characteristic features of Nadi Vrana. It reflects ongoing infection and the presence of unhealthy granulation tissue.

Significant reduction in discharge was observed in both groups. The superior effect observed in Group A indicates stronger Shodhana action and more effective cleansing of the sinus. Reduction of discharge also signifies improved local tissue health and control of infection.

Effect on Local Temperature

Increased local temperature is indicative of active inflammation. Both treatment groups demonstrated improvement in local inflammatory signs.

The reduction in local temperature suggests resolution of inflammation and restoration of normal tissue physiology.

Effect on Burning Sensation and Itching

Burning sensation and itching are commonly associated with chronic inflammatory lesions. Significant relief observed in both groups may be attributed to reduction of local irritation and progressive tissue healing.

Jatyadi Taila Varti showed particularly good response in controlling burning sensation and itching, which may be related to the soothing and wound-healing properties of its herbal constituents.

Effect on Sinus Length

Reduction in sinus length is one of the most important indicators of therapeutic success.

Progressive shortening of the tract was observed in both groups. However, Meshroma Mashyadi Taila Varti demonstrated superior efficacy. This suggests enhanced granulation tissue formation, tissue regeneration, and contraction of the sinus cavity.

Effect on Surrounding Skin

Improvement in surrounding skin condition reflects successful healing and restoration of normal tissue integrity.

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Both groups demonstrated marked improvement in erythema, induration, and unhealthy tissue changes around the sinus opening.

Probable Mode of Action of Meshroma Mashyadi Taila Varti

The therapeutic efficacy of Meshroma Mashyadi Taila Varti can be explained on the basis of Ayurvedic principles as well as modern wound-healing concepts.

According to Ayurveda, successful management of Nadi Vrana requires both Shodhana and Ropana. Meshroma Mashyadi Taila possesses properties that facilitate removal of slough, unhealthy tissue, and accumulated discharge while simultaneously promoting tissue regeneration.

Meshroma Mashyadi Taila contributes Lekhana and Shodhana effects. The medicated oil acts as a carrier that enables prolonged contact of active constituents with the affected tissues. Continuous exposure enhances cleansing of the tract and supports healthy granulation tissue formation.

The formulation also helps maintain patency of the tract, preventing premature closure of superficial openings while deeper tissues continue healing.

Probable Mode of Action of Jatyadi Taila Varti

Jatyadi Taila is a classical Ayurvedic formulation widely used in wound management.

Ingredients such as Jati, Nimba, Patola, Manjistha, Sariva, Madhuka, and other medicinal herbs possess antimicrobial, anti-inflammatory, antioxidant, and wound-healing properties. These actions support tissue regeneration, epithelialization, and restoration of normal tissue architecture.

The oil base facilitates sustained drug delivery and provides a favorable environment for wound healing.

Clinical Significance

The present study demonstrates that Ayurvedic Varti therapy can be effectively utilized in the management of chronic sinus disorders. The treatment is economical, minimally invasive, easy to administer, and suitable for outpatient practice.

The findings suggest that Meshroma Mashyadi Taila Varti may reduce the need for extensive surgical intervention in selected cases and improve patient comfort while promoting effective healing.

6. Future Scope

Multicentric randomized controlled trials should be conducted.

Studies with larger sample sizes are required.

Long-term follow-up studies should evaluate recurrence.

Comparative studies with modern surgical techniques should be undertaken.

Microbiological and histopathological studies may further clarify the mechanism of action.

Cost-effectiveness studies may strengthen evidence for routine clinical use.

7. Conclusion

The present study demonstrated that both Meshroma Mashyadi Taila Varti and Jatyadi Taila Varti are effective in the management of Nadi Vrana.

Significant improvement was observed in pain, tenderness, discharge, local inflammation, itching, burning sensation, surrounding skin condition, and sinus healing in both treatment groups. However, Meshroma Mashyadi Taila Varti exhibited superior therapeutic efficacy, particularly in reducing sinus length, pain, discharge, and tenderness.

The enhanced clinical response may be attributed to its potent Shodhana, Lekhana, and Ropana properties, which facilitate effective drainage, cleansing of unhealthy tissue, and promotion of healthy granulation tissue.

The study concludes that Meshroma Mashyadi Taila Varti is a safe, economical, minimally invasive, and effective therapeutic option for the management of Nadi Vrana and may serve as a valuable alternative treatment modality for chronic sinus disorders.

Declarations

Ethics Approval

The study was conducted after obtaining approval from the Institutional Ethics Committee and in accordance with the ethical principles outlined in the Declaration of Helsinki.

Informed Consent

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Written informed consent was obtained from all study participants before enrollment.

Funding

No external funding was received for this study.

Acknowledgement

The authors express sincere gratitude to the Department of Shalya Tantra, Swaminarayan University, Gujarat and Dayananda Ayurvedic Medical College and Hospital, Siwan, Bihar and all faculty members, staff, and patients who contributed to the successful completion of this research work.

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