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A Comparative Clinical Study Of Sneha Dagdha And Lauha Shalaka Dagdha After Chhedana Karma Of Kadara W.S.R. To Corn

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Abstract

Background: Kadara is described among the Kshudra Rogas in Ayurvedic classics and clinically resembles corn, a localized hyperkeratotic lesion commonly associated with pressure and friction. Pain, tenderness, difficulty in walking and recurrence are important clinical concerns. Classical management includes Chhedana Karma followed by Dahana Karma/Agnikarma. However, comparative clinical evidence regarding different methods of Dahana Karma after excision is limited.

Aim: To evaluate and compare the clinical efficacy of Sneha Dagdha and Lauha Shalaka Dagdha after Chhedana Karma in the management of Kadara w.s.r. to corn.

Materials and Methods: An open-label, prospective, non-randomized, two-arm interventional comparative clinical study was conducted on 30 patients presenting with clinical features of Kadara at the Department of Shalya Tantra, Government Ayurvedic College and Hospital, Raipur. Patients were allocated into two groups of 15 each. Following Chhedana Karma, Group A received Sneha Dagdha Agnikarma using heated Tila Taila, while Group B received Lauha Shalaka Dagdha Agnikarma using a red-hot iron rod. Treatment was continued for 28 days with regular assessment, followed by follow-up every 15 days for 3 months. Pain, tenderness, unit healing time and recurrence were assessed.

Results: Both groups demonstrated significant improvement in clinical parameters. In Group A, mean pain score decreased from 2.00 to 0.20 by Day 28, corresponding to 90.00% relief. In Group B, it decreased from 2.00 to 0.13, corresponding to 93.50% relief. Mean tenderness decreased from 2.07 to 0.33 in Group A (83.90% relief) and from 2.00 to 0.27 in Group B (86.50% relief). Intergroup comparison showed no statistically significant difference in pain or tenderness. Mean unit healing time was 31.40 ± 5.166 days in Group A and 32.47 ± 5.410 days in Group B ($p=0.585$). No recurrence was observed in Group A, whereas 2 patients (13.33%) in Group B developed recurrence.

Conclusion: Both Sneha Dagdha and Lauha Shalaka Dagdha following Chhedana Karma produced significant symptomatic improvement and satisfactory healing in patients with Kadara w.s.r. to corn. The intergroup differences in pain, tenderness and unit healing time were not significant. No recurrence was observed in the Sneha Dagdha group during the follow-up period, whereas recurrence occurred in two patients treated with Lauha Shalaka Dagdha.

Keywords: Kadara, Corn, Chhedana Karma, Agnikarma, Sneha Dagdha, Lauha Shalaka, Recurrence.

Introduction

Ayurveda describes Shalya Tantra as an important branch concerned with surgical and para-surgical management. Acharya Sushruta has described various surgical procedures and para-surgical techniques including Chhedana Karma and Agnikarma. Kadara is described under Kshudra Roga and is characterized by a hard, painful lesion occurring particularly over areas exposed to pressure.[1]

In contemporary clinical terminology, corn represents localized hyperkeratosis commonly associated with repeated mechanical pressure and friction. It may contain a central keratinous core and can become painful with pressure or walking. Persistent mechanical stress may contribute to recurrence.[2,3]

Ayurvedic management of Kadara includes Chhedana Karma, followed by Dahana Karma. Chhedana Karma removes the pathological mass and its central core, while Dahana Karma is employed as an adjunctive procedure.[4] The rationale for the present study was based on the possibility that different methods of Dahana Karma may produce different clinical outcomes, particularly regarding recurrence and wound healing.

Sneha Dagdha and Lauha Shalaka Dagdha are two methods of Agnikarma evaluated in the present study. In Sneha Dagdha, heated Tila Taila is applied to the excised lesion bed, whereas Lauha Shalaka Dagdha involves direct application of a heated iron rod. Therefore, the present clinical study was undertaken to compare these two procedures following Chhedana Karma in patients of Kadara w.s.r. to corn.

Aim

To evaluate and compare the clinical efficacy of Sneha Dagdha and Lauha Shalaka Dagdha after Chhedana Karma in the management of Kadara w.s.r. to corn.

Objectives

- To assess the effect of Sneha Dagdha after Chhedana Karma on pain, tenderness, wound healing and recurrence.
- To assess the effect of Lauha Shalaka Dagdha after Chhedana Karma on the same parameters.
- To compare the therapeutic outcomes of both procedures.

Materials And Methods

Study Design

The study was an open-label, prospective, non-randomized, two-arm interventional comparative clinical study conducted on 30 patients.

Study Setting

Patients presenting with clinical features of Kadara were recruited from the OPD and IPD of the Department of Shalya Tantra, Government Ayurvedic College and Hospital, Raipur.

Inclusion Criteria

Patients were included if they:

- Presented with classical signs and symptoms of Kadara/corn.
- Were between 18 and 60 years of age.
- Were of either sex.
- Had controlled diabetes mellitus, where applicable.
- Had controlled hypertension, where applicable.

Exclusion Criteria

Patients were excluded if they:

- Were below 18 or above 60 years.
- Had uncontrolled diabetes mellitus or hypertension.
- Had a known history of malignancy.
- Were pregnant.
- Had autoimmune disease.

Group

- Group A - Chhedana Karma + Sneha Dagdha Agnikarma
- Group B - Chhedana Karma + Lauha Shalaka Dagdha Agnikarma

Treatment Procedure

Chhedana Karma

The corn was surgically excised, including the hyperkeratotic tissue and central core under Local anaesthesia. The lesion was removed while attempting to minimize injury to surrounding healthy tissue. Following excision, Dahana Karma was performed according to group allocation.

Group A – Sneha Dagdha

Tila Taila was heated up to its smoking point. A small cotton ball dipped in heated Tila Taila was applied over the excised corn wound with gentle pressure for approximately 2–5 seconds. The application was repeated until Samyaka Dagdha Lakshana (eg. Krishanonnatavranta stravsannirodhasch etc)[5] were obtained.

Group B – Lauha Shalaka Dagdha

A Lauha Shalaka was heated over a gas burner until red hot and applied over the excised corn wound with firm pressure for approximately 2–5 seconds. Application was repeated until Samyaka Dagdha Lakshana (eg. Krishanonnatavranta stravsannirodhasch etc) were achieved.

Haemostasis was achieved by pressure or cauterization, followed by sterile dressing and bandaging. Antiseptic dressing was subsequently performed on alternate days.

Both groups received similar postoperative instructions and dressing with Jatyadi Taila. During the treatment period, patients were assessed every 7 days, followed by follow-up every 15 days for 3 months for recurrence.

Assessment Criteria

The therapeutic response was evaluated using four parameters:

1. Pain
2. Tenderness
3. Unit Healing Time
4. Recurrence

1. Pain

Pain was assessed using a graded Visual Analogue Scale:

No pain/ Absence of pain	0
Mild pain- between 1-3 mark on scale (pain that can be easily ignored)	1
Moderate pain-between 4-6 mark on scale (pain that cannot be ignored)	2
Severe pain-between 7-10 mark on scale (pain that cannot be ignored, needs treatment)	3

2. Tenderness

No tenderness	0
Pain on deep palpation	1
Pain on slight pressure	2
Pain even on touching	3

3. Unit Healing Time

Unit Healing Time was calculated by dividing the total duration required for complete wound healing by the wound area.

4. Recurrence

Recurrence was assessed during follow-up for 3 months following the procedure.

Results

Effect of therapy in patients of Group A (Sneha Dagdha)

Symptoms	Mean score		% relief	Z value	P value	Remark
	BT	AT				
Pain	2.00	0.20	90.00	3.626	0.000	HS
Tenderness	2.07	0.33	83.90	3.578	0.000	HS

Effect of therapy in patients of Group B (Lauha shalaka Dagdha)

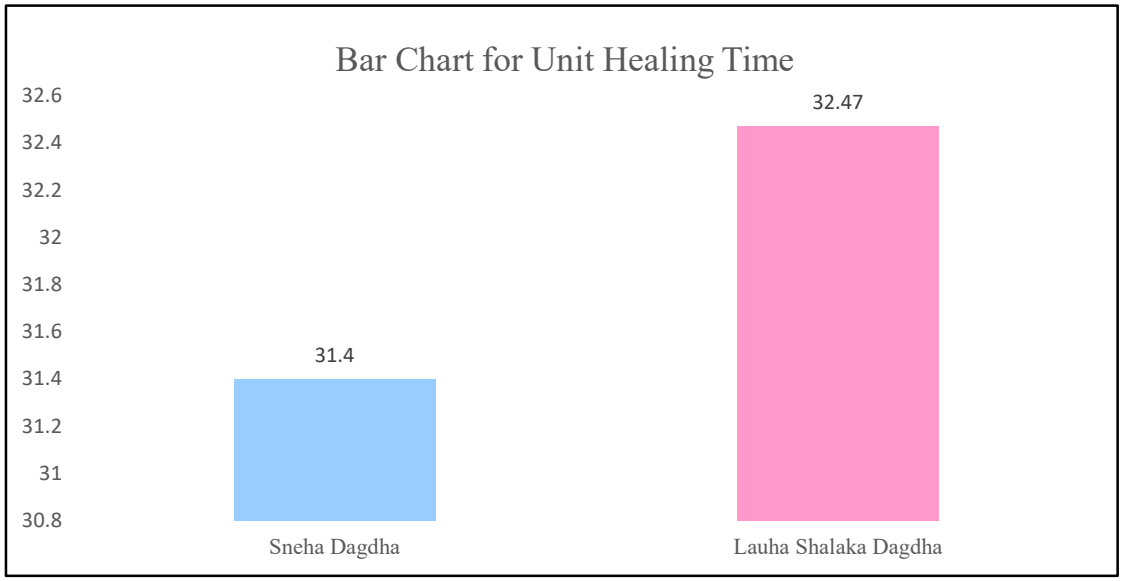
Symptoms	Mean score		% relief	Z value	P value	Remark
	BT	AT				
Pain	2.00	0.13	93.50	3.690	0.000	HS
Tenderness	2.00	0.27	86.50	3.578	0.000	HS

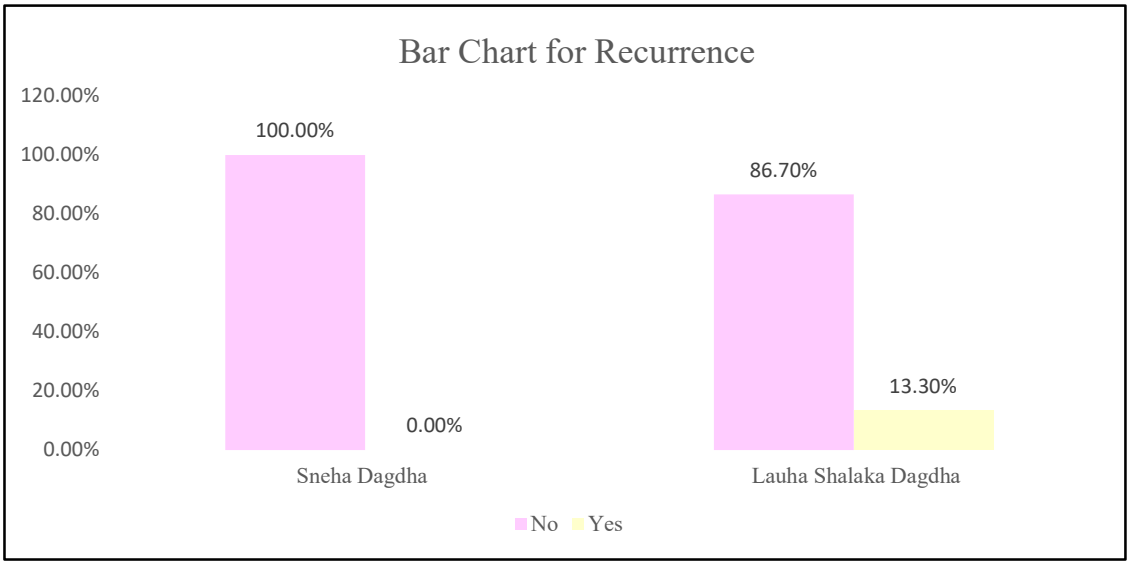
Comparision of both groups pain statistical analysis

Pain	Mean		Z value	p value	Remark
	Group A	Group B			
Day 7	0.53	0.40	0.720	0.472	NS
Day 14	0.87	0.87	0.060	0.952	NS
Day 21	1.53	1.53	0.000	1.000	NS
Day28	1.80	1.87	0.482	0.630	NS

Comparision of both groups tenderness statistical analysis

Tenderness	Mean		Z value	p value	Remark
	Group A	Group B			
Day 7	0.47	0.20	1.523	0.128	NS
Day 14	0.67	0.60	0.215	0.830	NS
Day 21	1.73	1.73	0.000	1.000	NS
Day 28	1.80	1.73	0.424	0.671	NS





Effect on Pain

In Group A, the mean pain score decreased from 2.00 before treatment to 0.20 on Day 28, corresponding to 90.00% relief. In Group B, the mean pain score decreased from 2.00 to 0.13, corresponding to 93.50% relief on Day 28. Intergroup comparison showed no statistically significant difference at any assessment point, Thus, both procedures demonstrated comparable improvement in pain.

Effect on Tenderness

In Group A, the mean tenderness score decreased from 2.07 to 0.33, corresponding to 83.90% relief by Day 28. In Group B, the mean tenderness score decreased from 2.00 to 0.27, corresponding to 86.50% relief. Intergroup comparison showed no statistically significant difference between the two groups.

Unit Healing Time

Mean Unit Healing Time was:

Group A: 31.40 ± 5.166 days

Group B: 32.47 ± 5.410 days

Recurrence

No recurrence occurred among the 15 patients in Group A. In Group B, recurrence occurred in 2 of 15 patients (13.33%), while 13 patients remained recurrence free. Overall, recurrence was observed in 2 of 30 patients (6.7%).

Table: Summary of Major Outcomes

Parameter	Group A: Sneha Dagdha	Group B: Lauha Shalaka Dagdha
Pain relief at Day 28	90.00%	93.50%
Tenderness relief at Day 28	83.90%	86.50%
Mean UHT	31.40 ± 5.166 days	32.47 ± 5.410 days

Recurrence	0/15 (0%)	2/15 (13.33%)
Major complications	None	None

The reports that the intergroup differences in pain, tenderness and UHT were not significant.

Discussion

Kadara is clinically characterized by a painful, hard lesion associated with pressure and friction. In the present study, the treatment strategy combined mechanical removal through Chhedana Karma with thermal cauterization through Agnikarma.

Chhedana Karma removes the visible hyperkeratotic mass and central core, thereby reducing local mechanical pressure. The subsequent application of Dahana Karma was intended to address residual pathological tissue and achieve haemostasis.

Effect on Pain

Both groups demonstrated substantial reduction in pain. The reduction may be related to removal of the keratinized central component and consequent reduction in pressure over the underlying tissues.

Although Group B demonstrated numerically greater pain relief at Day 28 (93.50%) compared with Group A (90.00%), the intergroup difference was not statistically significant. Therefore, the study data support comparable effects of the two procedures on pain.

Effect on Tenderness

Tenderness improved progressively in both groups. The decrease may be related to removal of the pathological tissue, reduction of local pressure and progressive wound healing. At Day 28, both groups demonstrated absence of Grade 2 and Grade 3 tenderness, with patients distributed between Grade 0 and Grade 1. The intergroup difference was not statistically significant.

Unit Healing Time

The mean UHT was similar in both groups, with no statistically significant intergroup difference (p=0.585). This indicates that the two forms of Agnikarma, when performed following Chhedana Karma, produced comparable healing outcomes. Lesion size and depth, continued mechanical stress over weight-bearing areas and individual variation in tissue repair as possible factors affecting healing duration.

Recurrence

Recurrence was the principal difference observed clinically between the groups. None of the patients treated with Sneha Dagdha experienced recurrence during the follow-up period, whereas 2 patients in the Lauha Shalaka group developed recurrence.

This finding may be related to the properties of the two procedures. Sneha Dagdha combines the thermal action of Agni with the Snigdha property of heated Tila Taila, whereas Lauha Shalaka produces direct localized thermal cauterization. This finding may suggests that the additional Snigdha property may contribute to the observed difference in recurrence.

However, recurrence may also be influenced by persistent mechanical factors such as pressure, friction, prolonged standing and footwear. Thus, the recurrence finding should be interpreted in the context of the small sample size and limited follow-up duration. These findings indicate that both treatment approaches produced favourable clinical outcomes.

Limitations

- The present study had several limitations:
- The sample size was limited to 30 patients.
- The study was conducted at a single centre.
- The study was non-randomized and open-label.
- Follow-up duration was relatively short for assessing long-term recurrence.
- Mechanical factors such as footwear, occupational activity, prolonged standing and friction could not be completely standardized.
- Larger multicentric studies with longer follow-up are required for more robust assessment of recurrence and sustained treatment effects.

Conclusion

The present comparative clinical study evaluated Sneha Dagdha and Lauha Shalaka Dagdha following Chhedana Karma in 30 patients of Kadara w.s.r. to corn.

Both treatment modalities produced significant improvement in pain and tenderness and resulted in satisfactory wound healing. Pain relief at Day 28 was 90.00% in the Sneha Dagdha group and 93.50% in the Lauha Shalaka group, while tenderness relief was 83.90% and 86.50%, respectively. The differences between the groups were not statistically significant.

Mean Unit Healing Time was comparable between the groups, measuring 31.40 ± 5.166 days with Sneha Dagdha and 32.47 ± 5.410 days with Lauha Shalaka Dagdha (p=0.585).

No recurrence was observed in the Sneha Dagdha group during follow-up, whereas recurrence occurred in 2 patients (13.33%) in the Lauha Shalaka group. Thus, within the limitations of this study, the two procedures showed comparable results for symptomatic relief and healing, while a difference in observed recurrence was noted during the follow-up period.



CLINICAL PICTURE OF SNEHA DAGDHA GROUP



CLINICAL PICTURE OF LAUHA SHALAKA DAGDHA GROUP

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