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Effect of Agnikarma with Honey versus *Panchadhatu Salaka* in pain management of *Katigraha* – A Comparative Case Report

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Abstract*—Katigraha, which is classified among Vataja Nanatmaja Vyadhis by Acharya Sharangdhara, closely resembles low back pain, characterized by muscular tension, spasms, restricted movement, and pain in the lumbar region. It is a prevalent musculoskeletal disorder with significant socio-economic impact. Effective pain management is essential to improve quality of life, Ayurvedic therapies like Agnikarma have been traditionally used for such conditions. The present study aims to evaluate and compare the effect of Agnikarma using Honey versus Agnikarma with Panchadhatu Salaka in pain management of Katigraha. Here two cases of low back pain, diagnosed as Katigraha were selected, one treated with Agnikarma using Honey (Kshoudra) and the other with Agnikarma using Panchadhatu Salaka. Clinical parameters, including pain intensity (Visual Analog Scale), Tenderness Grade, and Roland- Morris Disability Questionnaire (RMQ scores), were assessed before and after treatment, with follow-up evaluations. Agnikarma with Honey proved to be slightly more effective modality compared to Panchadhatu Salaka, owing to its thermal properties and deep tissue penetration. This study suggests that Honey can be considered a preferable Dahanopakarana in Agnikarma for managing deep-seated musculoskeletal pain conditions like Katigraha.*

***Keywords*—** *Agnikarma, Case report, Honey, Katigraha, Panchadhatu Salaka.*

I. Introduction

Katigraha is classified among the eighty *Vataja Nanatmaja Vyadhis* described by Acharya Sharangdhara [1]. The term "*Katigraha"* is derived from the Sanskrit words *"Kati"* (lumbar region) and "*Graham"* (rigidity or stiffness). According to Gadanigraha, the localization of *Vayu* (air element) within the *Katipradesa* (lumbar region), regardless of the presence of *Ama* (metabolic toxins), results in clinical features such as *Ruja* (pain) and Gra*ha* (stiffness) in the affected area [2]. This condition closely resembles low back pain, characterized by symptoms such as pain, discomfort, restricted movement, and stiffness confined to the low back region. Low back pain is defined as discomfort or pain localized below the costal margin and above the inferior gluteal fold, which may or may not be accompanied by radicular leg pain [3]. Epidemiologically, low back pain accounts for approximately 28.1% of pain cases globally [4]. Its lifetime prevalence has been estimated to be as high as 84%, with about 23% progressing to a chronic condition and approximately 11-12% leading to disability [5]. Therefore, low back pain is one of the most common musculoskeletal disorders and imposes a significant socio-economic burden due to high treatment costs and its impact on productivity. Effective pain management is essential to maintain quality of life and mental well-being. Given the high prevalence across various professional groups, there is an urgent need to explore and implement Ayurvedic therapeutic approaches.

Agnikarma, a classical Ayurvedic cauterization technique, is recognized for its immediate analgesic effects. It is believed that conditions treated with *Agnikarma* are less prone to recurrence and may be effective even in cases of unresponsive to pharmacological or surgical interventions. *Agnikarma* is primarily indicated for *Ruja Pradhana* (pain-dominant) conditions, especially those involving *Vata* and *Kapha* imbalances. To ensure effective heat transfer and therapeutic outcomes, various *Dahanopakarana* (tools for cauterization) are employed, as described by Ayurvedic scholars. Among these, *Panchadhatu Salaka* (a tool made of five metals) is frequently used in outpatient settings. Pain originated due to the localization of vitiated *Vata* in *Sanyu* (ligaments), *Sandhi* (joints) and *Asthi* (bone), materials such as *Kshoudra* (honey), *Guda* (jaggery), and *Sneha* (oil) are utilized [6]. These substances possess high latent heat, low heat dissipation (approximately 2°C per minute), and good penetrative capacity, making them suitable for *Agnikarma* procedures [7]. The region of *Katipradesa* primarily involves bones, joints, and ligaments. In this context, *Agnikarma* with Honey (*Kshoudra*) was chosen due to its favorable thermal and medicinal properties. The present study aims to assess the effect of *Agnikarma* with Honey compared to *Agnikarma* with *Panchadhatu Salaka* in pain management of *Katigraha*.

II. Case Report

Case 1

A 24-year-old male with no known co-morbidities presented with a history of low back pain persisting for two months. He is an IT student and also works part-time at a

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restaurant abroad. Two months prior, while working, he had to lift a heavy weight, after which he developed pain in the low back region. The pain was dull and aching, localized to the lumbar area, aggravated by exertion, and slightly relieved by rest and hot applications. On local examination, no swelling or visible deformities were observed. Palpation revealed Grade 2 tenderness at the level of L3 to L5 and S1 spinous processes, along with paraspinal muscle spasm. Lumbar spine movements were possible but elicited pain. The straight leg raising test, femoral nerve stretch test, and Faber test were negative on examination. X-ray of the lumbosacral spine showed no degenerative changes, fractures, or listhesis. Blood routine tests, including ESR, were within normal limits. Based on clinical assessment and investigations, the case diagnosed as *Katigraha.*

Case 2

A 28-year-old male with no known co-morbidities presented with low back pain lasting for one month. He works as a food delivery person and developed the pain after prolonged riding on a two-wheeler. The pain was intense, aching in nature, and confined to the lower back. It caused difficulty in bending and discomfort during daily activities. The pain was somewhat alleviated by using a hot water bag and worsened with movement and riding the bike. On examination, there was no swelling or visible deformity. Palpation revealed Grade 2 tenderness over the L2 to L5 spinous processes and bilateral sacroiliac joints, along with spasms and tenderness in the paraspinal region. Lumbar movements were painful. The straight leg raising, femoral nerve stretch, and Faber tests were negative. X-ray imaging of the lumbosacral spine showed no signs of degeneration, fractures, or listhesis. Blood tests, including ESR, were within normal limits. Based on clinical findings and investigations, the diagnosis was made as *Katigraha.*

III. Methods

Agnikarma was performed over the most tender points of low back region. Case 1 was treated with *Agnikarma* using Honey and for Case 2, *Agnikarma* done with *Panchadhatu Salaka*. For both cases *Agnikarma* administered in a single sitting. Assessments were performed before and after the treatment, and follow-up evaluations were conducted on the 7th and 15th day.

Assessment parameters

- Subjective parameters - Pain by Visual Analogue Scale (VAS) [8]
- Objective parameters - Lumbosacral tenderness and Roland- Morris Disability Questionnaire [9]

Case 1- Agnikarma with Honey

Thorough preoperative preparation was done, which involved gathering materials such as antiseptic solution, sterile cotton, Honey, gas stove, vessel for boiling, Borosil pipette, *Murivenna*, Aloe vera pulp, thermometer, marker pen, gloves, and kidney tray, [Fig: 1]. The procedure was explained in detail, and informed consent was obtained. The patient was kept in prone position comfortably. The low back area was exposed and marked at tender points. The area was cleaned with antiseptic solution and dried. Honey was heated in a sterile vessel until it reached its boiling point of approximately 110°C. During the procedure, heated Honey was carefully applied over the marked areas using the pipette as a *Bindhu Visesha*, [Fig: 2] and Aloe vera pulp was immediately applied afterward to reduce burning sensations. Post-procedure, Aloe vera was wiped off, and *Murivenna* was applied to the area. The patient was observed for 30 minutes following the procedure to monitor for any adverse effects.

Fig. 1: Materials used for *Agnikarma* with Honey

Fig. 2: *Agnikarma* with Honey

Case 2 - Agnikarma with Panchadhatu Salaka

The pre-operative procedure involved gathering materials such as antiseptic solution, sterile cotton, gas stove, *Panchadhatu Salaka, Murivenna,* Aloe vera pulp, marker pen, gloves, and a kidney tray, [Fig: 3]. The procedure was explained thoroughly, and informed written consent was obtained. The participant was positioned comfortably in the prone position, with the low back area exposed, and the most tender points were identified and marked using the marker pen. The area was then cleaned with antiseptic solution and allowed to dry. The *Panchadhatu Salaka* was heated until it reached a red-hot temperature of approximately 235°C and *Agnikarma* done over the marked areas, [Fig: 4]. Aloe vera pulp was immediately applied to soothe and reduce the burning sensation. After wiping of Aloe vera pulp was *Murivenna* was applied to the burnt area. The participant was observed for 30 minutes post-procedure to monitor for any adverse effects or complications.

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Fig. 3: Materials used for *Agnikarma* with Panchadhatu Salaka

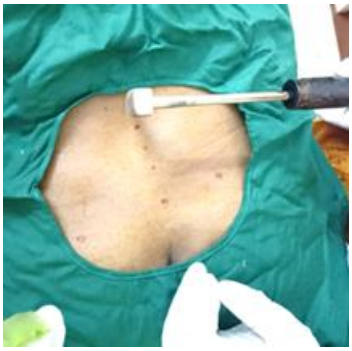
Fig. 4: *Agnikarma* with *Panchadhatu Salaka*

IV. Results

TABLE 1: Assessment of Case 1

Sl No	Criteria	BT	AT	Follow up	
				7th day	15th day
1	Pain	6	2	1	1
2	Tenderness	2	0	0	0
3	RMQ Score	8	6	3	2

TABLE 2: Assessment of Case 2

Sl No	Criteria	BT	AT	Follow up	
				7th day	15th day
1	Pain	7	3	3	3
2	Tenderness	2	0	1	1
3	RMQ Score	10	8	4	2

The two patients demonstrated notable improvements over the course of treatment, but their initial severity and response patterns differed [Table 1 & 2]. Both patients showed significant reductions in pain, tenderness, and disability by the 7th day. However, Case 1(*Agnikarma* with Honey) exhibited a more rapid and pronounced improvement, with pain decreasing from 6 to 2 and further to 1 by day 15, whereas Case 2 (*Agnikarma* with *Panchadhatu Salaka*), pain decreased from 7 to 3 by day 7 and remained at 3 on day 15.Tenderness resolved completely in both patients by day 7, but a slight recurrence was observed in Case 2 at day 15 (Grade 1), while Case 1 maintained complete resolution. Similarly, the RMQ scores decreased steadily in both, with Case 1 showing a greater reduction by day 7, and both achieving a low score of 2 at day 15. Overall, Case 1 responded more quickly and effectively to treatment, achieving near-complete relief earlier, while Case 2 showed steady but slower progress.

V. Discussion

Katigraha, involving vitiation of Vata dosha, can be considered as low back pain, as both involve muscular tension, spasms, restricted movement, and discomfort. Low back pain is one of the most common health problems worldwide, causing significant disability and economic burden, emphasizing the need for effective pain management. *Agnikarma*, an Ayurvedic therapy described by Acharya Sushruta, is indicated in conditions such as severe pain in skin, muscles, veins, ligaments, joints and bones [10]. It offers durable pain relief and potentially preventing recurrence of the disease. Acharya Sushruta recommended various *Dahanopakaranas* based on disease site and nature. Honey, jaggery, ghee, oil etc are specifically indicated for pain originated due to the localization of vitiated Vata in ligaments, bones and joints. Even though, *Panchadhatu Salaka* are commonly used for *Agnikarma* instead of the indicated *Dahanopakaranas*. This discussion compares the outcomes of *Agnikarma* with Honey versus *Panchadhatu Salaka* in pain management of *Katigraha*.

Discussion on probable mode of action of Agnikarma

Agnikarma is primarily indicated for *Vata* and *Kapha*-related disorders. It acts through two mechanisms: root cause removal (*Roga Unmulana*) and pain relief. By creating controlled thermal injury, it enhances blood circulation, clearing inflammatory mediators and reducing symptoms. *Laghu, Sukshma* and *Teekshna Guna* of *Agni* allow deep tissue penetration, increasing *Dhathwagni*, improving metabolism and digesting toxins (*Ama Pachana*) ultimately removing *Srothorodha* and pacifying *Vata* [11]. The probable mode of action of *Agnikarma* can be understood through the theory of pro inflammation, theory of thermodynamics and gate control theory of pain.

Discussion on Dahanopakaranas used [12]

Panchadhatu Salaka, an innovative tool developed by Prof. P. D Gupta for *Agnikarma Chikitsa.* Composed of *Tamra* (40%), *Loha* (30%), *Yashada* (10%), *Rajata* (10%), and *Vanga* (10%), it tapers to a *Bindu* shape with a blunt end. When heated, its temperature reaches around 235°C, decreasing rapidly to 219°C upon removal, with a dissipation rate of 3-4°C per minute. In contrast, Honey (*Kshoudra*), known for its *Ushna, Laghu, Rooksha,* and *Sookshma Guna,* has a boiling point of 110°C, reaching this temperature within a minute and then cooling at about 2°C per minute. Heating 10 ml of honey achieves the necessary *Samyak Dahana* for cauterization quickly, whereas *Panchadhatu Salaka* takes more time to reach red hot. Notably, *Panchadhatu Salaka* attains a much higher temperature than honey, but due to honey's higher latent heat capacity and viscous nature, it allows for more sustained and deeper heat penetration into tissues during *Agnikarma.*

Discussion on overall effect of treatment

This study indicates that pain management of *Katigraha* was effectively achieved using *Agnikarma* with Honey compared to *Panchadhatu Salaka*. Both cases showed

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improvements in pain, tenderness, and RMQ scores, with *Agnikarma* using Honey demonstrating slightly better initial outcomes. However, during follow-up, both treatments yielded comparable results. Using Honey was patient-friendly due to the shorter duration of burning sensation after *Agnikarma* compared to *Panchadhatu Salaka*. Overall, Honey proved to be an effective and safer *Dahanopakarana* for Pain management.

VI. Conclusion

Agnikarma induces controlled thermal injury that improves blood circulation, aids in clearing inflammatory mediators, and alleviates symptoms. Both Honey and *Panchadhatu Salaka* improve symptoms such as pain and tenderness, but Honey offers advantages in terms of shorter duration to achieve its boiling point, patient comfort, and comparable long-term outcomes. Honey's high latent heat capacity and ability to penetrate deep tissues through *Sookshma Sira* enhance its effectiveness against deeper *Doshas*. It was better tolerated by patients, with a shorter duration of post-procedure burning sensation, making it a more patient-friendly option. In this study, *Agnikarma* using Honey proved more effective for pain relief in *Katigraha* than *Agnikarma* with *Panchadhatu Salaka*. Further research with larger sample sizes and controlled studies is recommended to validate and expand upon these promising results.

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