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COMBINED EFFECT OF LOCAL APPLICATION OF FLAXSEED OIL AND AAMRAHARIDRA POWDER IN AGANTUJA SHOTHA (TRAUMATIC INFLAMMATION): A CASE STUDY

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ABSTRACT

Shotha is one of the commonly encountered clinical manifestations in both modern medicine and Ayurveda.[1] Trauma-induced inflammation is frequently associated with pain, tenderness, restriction of movement, and difficulty in performing day-to-day activities.[2] In Ayurveda, traumatic swelling is described under Agantuja Shotha, where external injury leads to vitiation of Dosha, especially Vata and Rakta.[3] Local therapeutic measures such as Lepa are described for reducing inflammation, pain, and restoring normal tissue function.[4] The present case study evaluates the combined effect of local application of flaxseed oil (Atasi Taila) and Aamraharidra powder in traumatic Shotha of the dorsal aspect of the palm. A 38-year-old male patient presented with swelling, pain, tenderness, and restricted movement over the dorsal aspect of the right palm following blunt trauma. Clinical examination revealed diffuse inflammatory swelling with mild local rise of temperature and tenderness. The patient was treated with local application of paste prepared from flaxseed oil and Aamraharidra powder twice daily for seven days. Assessment was done based on pain, swelling, tenderness, and range of movement. Significant improvement was observed in all clinical parameters. Swelling reduced markedly by the seventh day along with reduction in tenderness and pain. Hand movements improved

without any adverse effects. The anti-inflammatory, Vatahara, Vedanasthapana, and Shothahara properties of Atasi Taila and Aamraharidra may have contributed to the observed clinical improvement. This case study suggests that local application of flaxseed oil and Aamraharidra powder may provide an effective, economical, and safe Ayurvedic management approach in traumatic Shotha.

KEYWORDS: Shotha, Agantuja Shotha, Atasi Taila, Flaxseed Oil, Aamraharidra, Inflammation, Trauma, Lepa.

INTRODUCTION

Inflammation is a protective response of the body against tissue injury and microbial invasion. It is characterized by redness, swelling, heat, pain, and loss of function. Trauma-induced inflammation of soft tissues is commonly encountered in clinical practice and may result in significant discomfort and functional impairment. The dorsal aspect of the palm is particularly susceptible to trauma during occupational activities and accidental injuries.

In Ayurveda, inflammatory swelling is described under the broad term “Shotha.” Acharya Charaka described Shotha as a condition resulting from vitiation of Dosha leading to localized or generalized swelling.[5] Depending upon etiology, Shotha may be classified into Nija and Agantuja varieties. Agantuja Shotha occurs due to external trauma or injury and subsequently involves Vata, Pitta, Rakta, and Kapha Dosha.[6]

The classical features of Shotha include swelling, pain, heaviness, and impairment of function.[7] Management principles include Nidana Parivarjana, Shamana, and local therapeutic applications such as Lepa and Parisheka. Local application is considered beneficial because it acts directly on the affected site and helps in reduction of inflammation, pain, and tissue edema.

Atasi (Linum usitatissimum Linn.), commonly known as flaxseed, is described in Ayurvedic literature as Vatashamaka, Balya, Snigdha, and Vedanahara.[9] Atasi Taila possesses unctuous and soothing properties and is widely used externally for inflammatory and painful conditions. Modern studies have shown that flaxseed oil contains alpha-linolenic acid and omega-3 fatty acids that exhibit anti-inflammatory activity.[10]

Aamraharidra is traditionally used in inflammatory and wound-healing disorders.[11] It possesses Katu-Tikta Rasa, Ushna Virya, Kapha-Vatahara, Shothahara, and Ropana

properties.[12] Due to these pharmacodynamic actions, it may help in reducing local inflammatory changes and improving tissue repair.

The present case study was undertaken to evaluate the combined effect of local application of flaxseed oil and Aamraharidra powder in traumatic Shotha affecting the dorsal aspect of the palm.

AIM AND OBJECTIVES

Aim

To evaluate the efficacy of local application of flaxseed oil and Aamraharidra powder in traumatic Shotha of dorsal aspect of palm.

Objectives

1. To assess reduction in swelling.
2. To evaluate relief in pain and tenderness.
3. To observe improvement in movement and functional ability of hand.
4. To assess safety and tolerability of local application.

MATERIALS AND METHODS

Study Design

Single case study.

Place of Study

Outpatient and inpatient of Shalyatantra Department of our hospital.

Duration of Study

Seven days.

Drug Materials

1. Flaxseed Oil (Atasi Taila)

Botanical name: Linum usitatissimum Linn.

Ayurvedic Properties of Atasi

Property	Description
Rasa	Madhura, Tikta
Guna	Snigdha, Guru
Virya	Ushna
Vipaka	Madhura
Karma	Vatahara, Balya, Vedanasthapana

2. Aamraharidra Powder

Botanical name :Curcuma amada Roxb.

Ayurvedic Properties of Aamraharidra

Property	Description
Rasa	Katu, Tikta
Guna	Laghu, Ruksha
Virya	Ushna
Vipaka	Katu
Karma	Shothahara, Kapha-Vatahara, Ropana

Method of Preparation

A sufficient quantity of Aamraharidra powder was mixed with flaxseed oil to prepare a semisolid paste suitable for local application.

Method of Application

The affected area was cleaned with lukewarm water and dried gently. The prepared paste was applied uniformly over the swollen dorsal aspect of the palm twice daily. The paste was kept for approximately 45 minutes and later washed with lukewarm water.

CASE REPORT

Patient Information

Parameter	Details
Age	38 years
Gender	Male
Occupation	Farmer
Marital Status	Married
Religion	Hindu
Socioeconomic Status	Middle class

Chief Complaints

1. Swelling over dorsal aspect of right palm since 3 days.
2. Pain in affected area.
3. Tenderness on touch.
4. Difficulty in flexion and extension movements.

History of Present Illness

The patient was apparently normal three days prior to consultation when he sustained blunt trauma over the dorsal aspect of the right palm while lifting a heavy agricultural tool. Following trauma, the patient developed localized swelling associated with pain and tenderness. The swelling gradually increased over the next 24 hours and resulted in discomfort during hand movement and gripping activities.

The patient had not taken any significant treatment except application of cold water locally. Due to persistence of symptoms and difficulty in performing routine work, he attended the Ayurveda outpatient department.

Past History

No history of diabetes mellitus, hypertension, tuberculosis, fracture, or surgery.

Personal History

Parameter	Observation
Appetite	Normal
Sleep	Disturbed due to pain
Bowel	Regular
Micturition	Normal
Addiction	None

General Examination

Parameter	Observation
Pulse	78/min
Blood Pressure	120/80 mmHg
Temperature	Afebrile
Respiratory Rate	18/min

Local Examination

Parameter	Findings
Site	Dorsal aspect of right palm
Swelling	Diffuse, localized
Tenderness	Present
Local Temperature	Mildly raised

Parameter	Findings
Redness	Mild
Restriction of Movement	Present
Crepitus	Absent
Open Wound	Absent

Systemic Examination

Cardiovascular, respiratory, and central nervous system examinations were within normal limits.

DIAGNOSIS

Ayurvedic Diagnosis

Agantuja Shotha.

Modern Diagnosis

Traumatic soft tissue inflammation of dorsal aspect of palm.

ASSESSMENT CRITERIA

Clinical assessment was performed before treatment and after completion of treatment.

Grading of Swelling

Grade	Description
0	No swelling
1	Mild swelling
2	Moderate swelling
3	Severe swelling

Grading of Pain

Grading of Tenderness

Grade	Description
0	No tenderness
1	Mild tenderness
2	Moderate tenderness
3	Severe tenderness

Grading of Movement Restriction

Grade	Description
0	Normal movement
1	Mild restriction
2	Moderate restriction
3	Severe restriction

OBSERVATION AND RESULTS

Assessment parameters included pain (Visual Analog Scale), swelling, tenderness, and range of movement. Observations were recorded on Day 1, Day 4, and Day 7.

Clinical Assessment

Parameter	Day 1	Day 4	Day 7
Swelling	3	2	1
Pain	3	2	1
Tenderness	2	1	0
Movement Restriction	2	1	0

Overall Outcome

1. Significant reduction in swelling observed.
2. Marked relief in pain and tenderness.
3. Improvement in flexion and extension movements.
4. No adverse effects or skin irritation observed.

DISCUSSION

Shotha is an important disease entity described in Ayurveda and may occur due to internal or external etiological factors. Agantuja Shotha specifically develops due to trauma, injury, or

external insult. Trauma initially aggravates Vata Dosha, which subsequently vitiates Rakta and other Dosha, leading to inflammatory manifestations such as pain, swelling, and tenderness.

The present case involved traumatic inflammation of the dorsal aspect of the palm. The patient presented with cardinal inflammatory signs including swelling, pain, local warmth, and restricted movement. In Ayurveda, local therapeutic applications are advised in such conditions for rapid symptomatic relief.

Lepa is one of the important Bahirparimarjana Chikitsa procedures described in classical Ayurvedic texts.[13] The local application acts directly over the affected tissues and facilitates reduction of inflammatory manifestations.

The therapeutic effect observed in the present case may be explained on the basis of pharmacological and Ayurvedic properties of the ingredients used.

Role of Atasi Taila

Atasi is described as Snigdha, Ushna, and Vatahara. Trauma predominantly aggravates Vata Dosha resulting in pain and restriction of movement.[14] The Snigdha and Ushna qualities of Atasi Taila help in pacification of aggravated Vata. The oil base also provides local lubrication and softening effect over inflamed tissues.

Atasi Taila contains omega-3 fatty acids, especially alpha-linolenic acid, which possess anti-inflammatory action.[15] These fatty acids are known to modulate inflammatory mediators and may help reduce edema and tissue irritation.

The local application of oil may additionally improve circulation and facilitate absorption of active phytoconstituents through the skin. The unctuous nature of the oil also reduces stiffness and discomfort associated with inflammation.

Role of Aamraharidra

Aamraharidra possesses Katu and Tikta Rasa with Ushna Virya. These properties help in Kapha-Vata Shamana and reduction of localized swelling. Tikta Rasa is traditionally indicated in inflammatory and skin disorders because of its Lekhana and Shothahara actions.[16]

The Ruksha and Laghu Guna may help in reducing local edema and heaviness. Ushna Virya supports improved circulation and facilitates resolution of inflammatory changes.

Aamraharidra is also traditionally known for Ropana and Vedanasthapana properties, which may contribute to tissue healing and pain reduction. The paste consistency of the formulation ensures sustained contact with the affected site and prolonged therapeutic effect.

Probable Mode of Action

The combined formulation may have acted through multiple mechanisms:

1. Reduction of local inflammation.
2. Pacification of aggravated Vata and Kapha Dosha.
3. Improvement in local circulation.
4. Reduction in tissue edema.
5. Analgesic effect.
6. Promotion of tissue repair.

The combined effect of Snigdha Ushna Atasi Taila and Shothahara Aamraharidra appears to have synergistically reduced inflammatory manifestations.

Ayurvedic Interpretation

Agantuja Shotha initially develops due to external trauma and later becomes Tridoshaja with predominance of Vata and Rakta involvement.[17] The patient exhibited pain, swelling, tenderness, and restricted movement suggestive of Vata and Rakta Dushti.

External application possessing Vatahara, Shothahara, and Vedanasthapana properties is indicated in such conditions. The present intervention fulfilled these principles and produced encouraging results.

Importance of Local Therapy

Bahirparimarjana Chikitsa is particularly useful in localized disorders because the medicine acts directly at the site of pathology. Compared to systemic therapy, local application minimizes systemic side effects and is economical and convenient.

The formulation used in this case was simple, easily available, cost-effective, and acceptable to the patient. No adverse reactions were observed during treatment.

Limitation of Study

This is a single case study and therefore generalized conclusions cannot be drawn. Further studies with larger sample size and controlled clinical trials are required to establish efficacy scientifically.

CONCLUSION

The present case study demonstrates that local application of flaxseed oil and Aamraharidra powder may be effective in the management of traumatic Shotha of the dorsal aspect of the palm. Significant reduction in swelling, pain, tenderness, and restriction of movement was observed within seven days of treatment.

The formulation appears to possess anti-inflammatory, analgesic, and healing properties consistent with Ayurvedic principles of Shothahara and Vatahara Chikitsa. The therapy was found to be safe, economical, and easy to administer.[18]

Further clinical studies with larger sample size are recommended to validate these findings and establish standardized treatment protocols.

PATIENT CONSENT

Written informed consent was obtained from the patient for publication of this case study.

REFERENCES

1. Yadavaji Trikamji, editor. Charaka Samhita of Agnivesha, Sutrasthana, Chapter 18, Verse 4. Varanasi: Chaukhambha Surbharati Prakashan, 2017; 108.
2. Kumar V, Abbas AK, Aster JC. Robbins and Cotran Pathologic Basis of Disease. 10th ed. Philadelphia: Elsevier, 2020; 44-51.
3. Yadavaji Trikamji, editor. Charaka Samhita of Agnivesha, Chikitsasthana, Chapter 12, Verse 8-10. Varanasi: Chaukhambha Surbharati Prakashan, 2017; 490.
4. Ambikadatta Shastri, editor. Sushruta Samhita, Chikitsasthana, Chapter 1, Verse 15-18. Varanasi: Chaukhambha Sanskrit Sansthan, 2018; 12.
5. Yadavaji Trikamji, editor. Charaka Samhita of Agnivesha, Sutrasthana, Chapter 18, Verse 12-14. Varanasi: Chaukhambha Surbharati Prakashan, 2017; 110.
6. Brahmanand Tripathi, editor. Ashtanga Hridaya, Nidanasthana, Chapter 13, Verse 1-5. Delhi: Chaukhambha Sanskrit Pratishthan, 2015; 490.

7. Ambikadatta Shastri, editor. Sushruta Samhita, Sutrasthana, Chapter 17, Verse 3-5. Varanasi: Chaukhambha Sanskrit Sansthan, 2018; 83.
8. Tripathi B, editor. Sharangadhara Samhita, Madhyama Khanda, Chapter 11. Varanasi: Chaukhambha Surbharati Prakashan, 2014; 205.
9. Sharma PV. Dravyaguna Vijnana. Vol II. Varanasi: Chaukhambha Bharati Academy, 2013; 678-680.
10. Goyal A, Sharma V, Upadhyay N, Gill S, Sihag M. Flax and flaxseed oil: an ancient medicine and modern functional food. J Food Sci Technol, 2014; 51(9): 1633-1653.
11. Kirtikar KR, Basu BD. Indian Medicinal Plants. Vol II. Dehradun: International Book Distributors, 2005; 945.
12. Bhavaprakasha Nighantu of Bhavamishra. Commentary by Chunekar KC. Varanasi: Chaukhambha Bharati Academy, 2015; 512.
13. Kaviraj Ambikadutta Shastri, editor. Bhaisajya Ratnavali. Varanasi: Chaukhambha Prakashan, 2016; 945.
14. Sharma H, Chandola HM. Ayurvedic concept of inflammation and its management. J Ayurveda Integr Med., 2013; 4(2): 88-92.
15. Simopoulos AP. Omega-3 fatty acids in inflammation and autoimmune diseases. J Am Coll Nutr., 2002; 21(6): 495-505.
16. Gupta SK. Inflammation and wound healing in Ayurveda. AYU., 2011; 32(1): 94-99.
17. Patil V. Principles and Practice of Panchakarma. 4th ed. Varanasi: Chaukhambha Sanskrit Sansthan, 2012; 283.
18. David S, Cunningham R. Topical herbal therapies in inflammatory disorders. Int J Herbal Med., 2018; 6(4): 45-50.
19. Yadavaji Trikamji, editor. Charaka Samhita of Agnivesha, Sutrasthana, Chapter 18, Verse 4. Varanasi: Chaukhambha Surbharati Prakashan, 2017; 108.
20. Yadavaji Trikamji, editor. Charaka Samhita of Agnivesha, Chikitsasthana, Chapter 12, Verse 8-10. Varanasi: Chaukhambha Surbharati Prakashan, 2017; 490.
21. Ambikadatta Shastri, editor. Sushruta Samhita, Sutrasthana, Chapter 17, Verse 3-5. Varanasi: Chaukhambha Sanskrit Sansthan, 2018; 83.
22. Ambikadatta Shastri, editor. Sushruta Samhita, Chikitsasthana, Chapter 1, Verse 15-18. Varanasi: Chaukhambha Sanskrit Sansthan, 2018; 12.
23. Sharma PV. Dravyaguna Vijnana. Vol II. Varanasi: Chaukhambha Bharati Academy, 2013; 678-680.

24. Goyal A, Sharma V, Upadhyay N, Gill S, Sihag M. Flax and flaxseed oil: an ancient medicine and modern functional food. J Food Sci Technol, 2014; 51(9): 1633-1653.
25. Sharma PV. Dravyaguna Vijnana. Vol II. Varanasi: Chaukhambha Bharati Academy, 2013; 438-440.
26. Kaviraj Ambikadutta Shastri, editor. Bhaisajya Ratnavali. Varanasi: Chaukhambha Prakashan, 2016; 945.
27. Brahmanand Tripathi, editor. Ashtanga Hridaya, Nidanasthana, Chapter 13, Verse 1-5. Delhi: Chaukhambha Sanskrit Pratishthan, 2015; 490.
28. Patil V. Principles and Practice of Panchakarma. 4th ed. Varanasi: Chaukhambha Sanskrit Sansthan, 2012; 283.
29. Gupta SK. Inflammation and wound healing in Ayurveda. AYU., 2011; 32(1): 94-99.
30. Sharma H, Chandola HM. Ayurvedic concept of inflammation and its management. J Ayurveda Integr Med., 2013; 4(2): 88-92.
31. Tripathi B, editor. Sharangadhara Samhita, Madhyama Khanda, Chapter 11. Varanasi: Chaukhambha Surbharati Prakashan, 2014; 205.
32. Kirtikar KR, Basu BD. Indian Medicinal Plants. Dehradun: International Book Distributors, 2005; II: 945.
33. Bhavaprakasha Nighantu of Bhavamishra. Commentary by Chunekar KC. Varanasi: Chaukhambha Bharati Academy, 2015; 512.