



Rujakara Marma Kshat Lakshana w.s.r. to Sports Injury Management by Herbal Paste Application (Manjishthadi Lepa) and Laxadi Guggulu- A Clinical Study

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Abstract

With the rise of sports buzz, in the same proportion propensity for injuries is inclining especially in the areas of *Rujakara Marma Pradesha*. When we go through the *Ayurvedic* doctrines we definitely do not find direct references regarding a specialty called sports medicine or *Krida Ayurveda* nor do we have readymade management plans for sports related ailments. This attempt aims at exploring the scope of *Ayurveda* in making very significant contribution to the field of modern sports injuries. So, the combined effect of *Manjishthadi Lepa* with *Laksha Guggulu* will fulfill our treatment aim regarding to *Rujakara Marma Kshata lakshanas w.s.r. to Sports injury*.

Method: In this study, randomly selected 25 patients from the hospital of government Akhandanand Ayurved College, Ahmedabad, with diagnostic criteria of swelling, tenderness, difficulty in movements and patients with history of *Rujakara Marma Kshata lakshanas w.s.r. to Sports injury*. **Results:** Out of 25 patients, complete relief was observed in 60 %, moderate relief in 20%, mild relief in 8 % and no relief in 12 % of patients. **Conclusion:** *Manjishthadi Lepa* with *Laksha Guggulu* was observed to be very beneficial in Sports injury like contusion, sprain, strain and hairline fracture.

Keywords

Rujakara Marma, Sports Injury, Manjishthadi Lepa, Laxadi Guggulu



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INTRODUCTION

The word *Marma* comes from Sanskrit origin 'mru' or 'marr'. 'Marayanti iti marma', the Sanskrit phrase means likelihood of death after inflion to these places. The word *Marma* is also known as tender, secret or vital spots. According to *Sushruta*, *Marma* point is an anatomical site where *Mansa*(muscles), *Sira*(blood vessels), *Snayu*(tender), *Asthi*(bones), *Sandhi*(joints) confluence¹. According to traumatic effect, *Marma* are classified as *Sadhyapranahara* (causing death immediately), *Kalantara Pranhara* (causing death on time), *Rujakara* (causing pain), *Vaikalyakara* (causing deformity) and *Vishalyaghna* (one with foreign body)². Pain is the first sigh of morbidity of any tissue. The *Rujakara Marma* are such sites in the body where in slight injury lead to severe pain though there is no much disturbance in its structural anatomy.

There are no sports medicines that are described as such, either in ancient or in modern medicine. It is the application of various medical principles to the sports activities. It is related to the physiological as well as patho-physiological aspects of sports and athletic injuries.

Sports injury - Any bodily damage sustained during participation in competitive or non-competitive sports activities. Sports injuries can affect bones or soft tissue like muscles, ligaments, tendons, nerves etc.

Acharya Sushruta has advocated the application of *Manjistadi lepa*³ in traumatic joint injuries in *Chikitsa Sthana*. *Manjishthadi lepa* has excellent result in fracture healing, swelling and pain⁴. It was found that, a very good analgesic and anti-inflammatory action.

*Laksha Guggulu*⁵ is indicated in the management of *Bhagna* as internal medicine in various texts. *Lakshadi Guggul* is mostly used in *Asthigata vikara* such as *Bhagna* (fracture), pain and trauma⁶.

Musculo-skeletal elements of *Rujakar Marma*

(A) MANIBANDHA MARMA⁷

Name: *Manibandha*

Type: *Sandhi*

Size: 2 *Angula*

Site: The wrist

Controls: Controls skeletal system (*Asthivaha Srotas*) and movement of hands, *Sleshaka Kapha* (lubrication of joints) and *Vyana Vayu* (peripheral circulation)

Qualities relative to injury: *Rujakara* (pain-causing)

Loss of flexion and extension of the second, third and fourth finger and adduction of second, third and fourth metacarpels. Bleeding may lead to pain, shock or infection are the symptoms which are correlated with Manibandha Marma sports injury.

(B) KURCHA SIRA RUJAKARA MARMA OF THE HAND⁸

Name: *Kurchashira Marma*

Number: 2

Type: *Snayu*

Size: 1 *Angula*

Site: The root of the thumb just above wrist.

Controls: Controls *Alochaka Pitta* (power of site), *Agni* (digestive power), Stomach (form of *Pitta*, *Kapha* and *Vata* governing digestion) also influences the head, mind and nervous system, alleviating *Vata*.

Qualities relative to injury: *Rujakara* (pain-causing)

Impairment of the flexion and abduction of the wrist, bleeding from the radial artery and pain due to injury to the radial nerve are the symptoms which are correlated with *Kurchashira Marma* sports injury.

(C) GULPHA MARMA⁹

Name: *Gulpha*

Number: 2

Type: *Sandhi*

Size: 2 *Angula*

Site: The ankle joint

Controls: Controls fat, bone and reproductive system (*Medovaha*, *Asthivaha* and *Shukravaha Srotamsi*) *Vyana Vayu* (circulation of *Prana*), *Sleshaka Kapha* (lubrication of the joint) and movement of the feet.

Qualities relative to injury: *Rujakara* (pain-causing)

Injury to the joint will cause swelling and impair the function of the flexion and extension are the symptoms which are correlated with *Gulpha Marma* sports injury.

(D) KURCHA SHIR RUJAKARA MARMA OF THE FOOT¹⁰

Name: *Kurcha shira*

Number: 2

Type: *Snayu*

Size: 1 *Angula*

Site: Planter surface of the foot

Controls: Controls muscular system (*Mamsavaha Srotas*), particularly muscles of the foot and bodily posture.

Qualities relative to injury: *Rujakara* (pain-causing)

Damage to the ligaments and bone may cause severe pain along with the impairment of the function of the foot are the symptoms



which are correlated with *Kurchashira Marma* sports injury.

AIMS AND OBJECTIVES

- To regain physical fitness of a sports person and send him back to the field as early as possible.

Table 1[*Manjishthadi Lepa Ingredient*]

DRUG	LATIN NAME	PART USE	PROPORTION
<i>Manjishtha</i>	<i>Rubia cordifolia</i>	Root	1 part
<i>Yashtimadhu</i>	<i>Glycyrrhiza glabra</i>	Root	1 part
<i>Raktachandana</i>	<i>Santalum rubrum</i>	Heartwood	1 part
<i>Shali Pishti</i>	<i>Oryza sativa</i>	Grain	1 part
<i>Shatadhautaghrita</i>			As per require

Table 2[*Lakshadi Guggulu Ingredient*]

DRUG	LATIN NAME	PART USE	PROPORTION
<i>Laksha</i>	<i>Laccita lacca</i>	Resin	1 part
<i>Asthishrinkhala</i>	<i>Cissus quadrangularis</i>	Stem	1 part
<i>Arjuna</i>	<i>Terminalia arjuna</i>	Root	1 part
<i>Nagabala</i>	<i>Grewia hirsute</i>	Root	1 part
<i>Ashwagandha</i>	<i>Withania somnifera</i>	Root	1 part
<i>Shuddha Guggulu</i>	<i>Commiphora mukul</i>	Resin	5 part

MATERIALS AND METHODS

It is an observational study with a pre-test and post-test design conducted on 25 patients to assess the efficacy of Herbal Paste application (*Manjishthadi Lepa*) and *Laxadi Guggulu* in the management of *Rujakara Marma Kshat Lakshana* w.s.r. to sports injuries. Patients were selected from OPD and IPD of Hospital of Government Akhandanand Ayurved College, Ahmedabad, who were fulfilling the inclusion and exclusion criteria.

MANJISHTHADI LEPA:

- To evaluate the effect of *Manjishthadi Lepa* and *Laxadi Guggulu* in the management of *Rujakara Marma Kshat Lakshana* with special reference to Sports Injuries.

Table 1[*Manjishthadi Lepa Ingredient*]

Preparation of *Manjishthadi Lepa*: The above said drugs were grounded separately and then mixed one by one. The required quantity of powder is taken and paste is made by adding *Shatadhautaghrita* and used for application over the fractured area. For each application fresh paste will prepared.

LAKSHADI GUGGULU:

Table 2[*Lakshadi Guggulu Ingredient*]

DIAGNOSTIC CRITERIA:

Patients with history of Sports injury presenting with



1. Swelling
2. Tenderness
3. Colour change
4. Difficulty in movements

INCLUSION CRITERIA:

1. Patients with history of Sprains, Strains, Contusion, Hairline fracture of finger, tarsal and metatarsal were randomly selected irrespective of age and sex.
2. Patients with subluxation were also selected.
3. Injury site is *Rujakara Marma*.
4. Patients have to visit within 3 days after injury.

EXCLUSION CRITERIA:

1. Patients with dislocation of joint excluded.
2. Patients with open and displaced fracture excluded.

METHOD:

Selected patients were subjected to application of *Manjishthadi Lepa* mixed with *Shatdhauta ghritam*. The thickness of *Lepa* was 1cm and removed after complete drying up of *Lepa*. This *lepa* was applied twice a day for a period of 10 days. *Laxadi Guggulu* 2 tablets in TDS for 10 Days (Each tablet weight is 500 mg).

ASSESSMENT CRITERIA:

1. Pain(VAS Score)
2. Swelling
3. Range of movements

DIAGNOSIS:

Acute injuries are self evident, as they are associated with specific traumatic event. After the trauma the physician performs physical examination of the patient to identify the specific injury. In case of suspected skeletal injuries or joint injuries, a radiological examination is carried out and radiologist confirms or rules out a dislocation, fracture of a soft tissue injury.

GENERAL TREATMENT:

For sports injuries the standard treatment followed is protection, rest, ice, compression and elevation. Depending on the injury, protection alone i.e., immobilizing the affected area with a brace, tape, or wrap, or simply avoiding the activities that aggravate the injury is sufficient. Rest, means refraining from activities that prevent recovery from injury. Ice should be used to relieve pain and swelling immediately after the injury. Compression, with tape or elastic wraps, is used to limit the swelling and stabilize the area. Elevation, where the injured body part is placed above the level of heart, is also used to prevent swelling and promote early healing.

Along with these, medicines and rehabilitation techniques are also a part of sports medicine. Non steroid anti-inflammatory drugs have been used for pain

management and corticosteroid injections are sometimes used to control inflammation and pain. These drugs reduce the strength and flexibility of soft tissues also have hepatotoxic effect in long term usage.

OBSERVATION AND RESULTS

- Sex wise distribution of Patients of Sports Injury:
- Involvement of different Sports Injury:
- Total Effect of Therapy:

PROBABLE MODE OF ACTION OF HERBAL PASTE APPLICATION (MANJISHTHADI LEPA)¹¹:

Rakta Prasadana Karma and hot potency (Ushna Veerya) of Manjista Lepa helps to penetrate into the local tissue that will dilate the peripheral vessels. Thus resulting in venous dilation followed by increased peripheral arterial blood flow.	This may be the reason for the reduction of the swelling at the affected area.
Yastimadhu along with Shatadouta Ghrita does Vranaropana and Pitta Shamana. The Madhura and Snigdha property of this	This results in reliving the pain.
The pain being the resultant of swelling which exert pressure over the peripheral sensory nerve, the Ushma Guna and Madhura Rasa of the Lepa dravya probably act as Vata Shamaka.	Act as anti-inflammatory.
Shatadhouta Ghrita enhances	Tissue permeability aiding in tissue repair.
The Lepa itself during the process of drying may cause local pressure and stiffness and the rest given may help in	Faster recovery.

PROBABLE MODE OF ACTION OF LAXADI GUGGULU¹²:

<i>Guggulu</i>	<i>Ati Lekhaneeya</i> which has <i>Tikta katu rasa, Sukshma</i> and <i>Sara Gunas, Shothahara</i> as well as <i>Bhagna Sandhanakara</i> properties.	Anti-inflammatory properties and it is proven that it is reducing inflammation in oral use.
<i>Laksha:</i>	<i>Kashaya, Tikta, Snigdha, Sheeta Guna, Katu Vipak</i> and has properties of <i>Bhagnasandhana, Vranaropaka</i>	Result showed that <i>Laksha</i> enhance tissue repair and bone healing.
<i>Ashwagandha:</i>	<i>Balya, Rasayana, Vedanasthapana</i> and has <i>Laghu, Sheeta, Ruksha Sara Gunas</i> in common.	Anti-inflammatory, antitumor, anti-stress, antioxidant, immune-modulatory, hemopoetic, and rejuvenating properties.
<i>Nagabala:</i>	<i>Madhura, Kashaya Rasa, Guru, Snigdha</i> and <i>Pichchhila Guna, Sheeta Veerya</i> and <i>Madhura Vipaka, the Rasayana</i>	Root of <i>Nagabala</i> is diuretic, antidiarrhoeal.
<i>Arjuna:</i>	<i>Laghu-Ruksha, Gunas, Sheeta Virya, Katu Vipaka</i> with <i>Raktastambhaka, Sandhaniya, Vranaropaka, Raktaprasadana</i>	Fractures, ulcers, diabetes, cardiac disorders, excessive perspiration, fatigue, asthma, intrinsic haemorrhages, inflammations, skin-diseases like freckles, wound.
<i>Asthishrinkhala:</i>	<i>Laghu, Ruksha, Sara Guna, Madhura Rasa, Usna Virya</i> and <i>Madhura Vipaka</i> and <i>Sandhaniya, Dipana, Pachana, krimighna, Rakta-Stambhaka, Rakta Shodhakakarma</i>	Antioxidant, analgesic, anti-inflammatory, antipyretic, antimicrobial activity and having natural steroids and vitamin it is useful for early healing.

DISCUSSION

The musculoskeletal system of *Rujakara Marma* comprises of a number of specialized connective tissue, including bone, cartilage, muscle, ligament and tendon. Whose major functions are to provide rigid support for the body, protect organs and other tissue and to generate and enable controlled movement. It is a target site of variety of different injuries and disorders during sports, because of its complex structure and weight bearing capacity, It is frequently affected in sports compared to other joints of the body. The serious injuries involve - injury to the joint, collateral ligament, muscles, bones, and dislocation of the joint. In *Ayurveda* there is no direct explanation regarding sports injuries and its management but in present scenario it is demand of time that *Ayurveda* shows importance of his science in the field of sports. Pain, swelling, stiffness, irritation, fracture etc. are the main complaints in *Rujakara Marma Kshata Lakshana* (w.s.r. to Sports injuries). In *Ayurveda* there are so many herbal drugs, *Aushadhi yoga*, *Lepa*, *GuggulaKalpa*, *Ghrita*, *Rasakalpa* and *Panchakarma* Procedures like (*Snehana*, *Swedana*, *Janubasti*, *Raktamokshana* etc.

)which play important role in the management of the sports injuries. *Rasayana* and *Yoga* may also play significant responsibility in maintaining the proper anatomy, stability, strength, mobility and elasticity of the *Rujakara Marma*. So, the combined effect of *Manjishthadi Lepa* with *Laksha Guggulu* will fulfill our treatment aim regarding to *Rujakara Marma Kshata lakshanas*.

SUMMARY

Summary of methodology of *Manjishthadi Lepa* application:

Rakta Prasadana Karma and hot potency (*UshnaVeerya*) of *Manjishtha Lepa* helps to penetrate into the local tissue of *Lepa* application that will dilate the surroundings vessels, thus resulting in venous dilation followed by increased peripheral arterial blood flow. That is the cause for the reduction of the swelling at the affected area. *Ushna Guna* and *Madhura Rasa* of the *Lepa dravya* probably act as *Vata Shamaka*, this results in relieving the pain. *Yastimadhu* along with *Shatadhauta Ghrita* act as *Vranaropana* and *Pitta Shamana*.

That's we got following effect:

1. To alleviate pain.
2. To strengthen the injured part.



3. Improving function & performance of sports person.

Summary of methodology of *Laxadi Guggulu*:

In *Laksha Guggulu* ingredients are prominent of two *Rasas* (1) *Kashaya Rasa* like *Laksha*, *Arjuna* etc. and they work on injured part, they constricts dilated capillaries reduces excessive swelling at injure site, when Swelling reduced pain is Also reduced. (2)*Madhura Rasa* also having *Sandhaneeya* properties like, *Nagabala*, *Asthishrinkhala* etc. *Madhura Rasa Dravyas* mainly do *Brimhan* and then *Kshaya Dhatu Vridhdhi*.

That's we got following effect:

1. To alleviate pain.
2. To boost up tissue healing.
3. To strengthen the injured part.
4. Nutrition Boster

CONCLUSION

Manjishthadi Lepa was found to be very beneficial in *Rujakara Marma Kshat Lakshana* w.s.r. to sports injuries. The drugs of *Manjishthadi Lepa* are easily available, cost effective and can be practiced in OPD level. The duration of treatment is also short, owing to the fast action of the drugs.

The present study reveals that *Laksha Guggulu* was given to patients of *Rujakara Marma Kshat Lakshana* w.s.r. to sports injuries which was found helpful in healing without prescribing calcium preparations and multi-vitamins. Hence, it can be conclude that *Laksha Guggulu* had provided definite role in bone healing and redusing the pain. Apart from that, *Laksha Guggulu* being a herbal preparation can be used safely as it showed no any adverse effect in this study.

A study on repeated application of these treatment procedures and interchanging the samples from one treatment procedures to other may be conducted for further evaluation. Detailed studies using modern principles of investigation should be initiated as a combined project between the practitioners of different systems of medicine so as bring out the maximum benefits. This would create new opportunities for upcoming branch of *Ayurveda* that is *Krida Ayurveda*.



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