



A REVIEW ON *MARMA* AND *MARMAGHATA* ACCORDANCE WITH *AYURVEDIC* CLASSICS W.S.R. TO SPORT INJURIES

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ABSTRACT

Ayurveda The earliest medical profession, known as "the science of life," has always placed more emphasis on prevention than on treatment. Ayurveda's "*marma* science" refers to the critical and vulnerable places on our bodies that are spread throughout the body i.e., head, neck, trunk, and extremities. As a result, understanding the anatomy of these body parts is crucial for both patients and doctors in order to protect patients' key organs and sensitive body parts during surgery or other medical interventions. Knowing your *marma* regions is important for protecting your crucial and delicate body parts from harm, but it's also important for doctors and surgeons to save these areas during surgery or other medical interventions. Vedic literature contains numerous references to enemy, soldiers inflicting injuries on the *marma* region and protecting one's *marma* by wearing guards. Muscles, veins, ligaments, tendons, bones, and their joints come together to form *marmas*. Any injury to these *marma* zones, which contain the *tridosha*, *triguna*, *bhutatma*, and *chetana dhatu*, may result in discomfort or even death. Other signs of *marma* injury include giddiness, syncope, delusion, semiconsciousness, numbness, etc. Classical Ayurvedic books created during Samhita kala provide a thorough explanation of *marmaghata* or *viddha lakshanas* (impact of damage).

Modern world has given priority to sports. During the sport events, injuries are common, injuries to soft and hard tissues are the problem faced by sports persons as they have to go physical strain, stress and even death in the field.

INTRODUCTION

Marma is one of the most crucial topics in Ayurveda. *Marma* points have long been recognised as the locations of prana, or the life energy, and injuries to these points can result in severe pain, impairment, loss of function, loss of sensation, and even death. Therefore, these crucial points should not be harmed, and appropriate care should be given in this regard even while performing surgery, according to old texts.¹ *Marma* point is defined as anatomical site where muscles, veins, ligaments, bones and joints meet together. *Acharya Sushruta* has identified 107 *marmas* in human body.² These are the seats of life "Prana" i.e., *marmas* are important points where life element exists. Any harm to these sensitive areas could result in death, severe discomfort, impairment, loss of function, or loss of sensation.

However, recent researches indicate that if any *Marma* point is inflamed or painful, then stimulating its nearby *Marma* points can help in diminishing this pain.

Sports injuries -Any physical disability suffered when taking part in competitive or non-competitive sporting events is referred to as sports injury. Sports have evolved into a modern industry that serves as a motivator and commercial promoter for numerous enterprises. Bones or soft tissue, such as muscles, ligaments, tendons, nerves, etc., can be injured during sports. Sportspeople are more likely to sustain injuries, thus they need to understand how joints work anatomically. Ayurvedic practitioners have a vast latitude for diagnosing and treating these injuries by viewing them from a wider perspective of *marmabhighatha lakshanas*.³

DEFINATION OF MARMA

1. In accordance with *Sushruta*, the five components of the human body—*mamsa* (muscles), *sira* (blood vessels), *snayu* (ligaments), *asthi* (bones), and *sandhi* (joints)—meet in the *marmas*. The *pranas* are seated at these meeting sites as a natural phenomenon. Therefore, depending on the *marma* structure involved, any damage to these locations has severe consequences.⁴

2. Charak claims that because *Marmas* are connected to the *chetana dhatu*, the pain there is more acute than at other bodily sites. This demonstrates the *marmas*' vigour and sensitivity.⁵

3. According to *Ashtang Hridaya*, *Marmas* are the sites where muscles, bones, ligaments, arteries, veins and joints meet each other. *Prana* is especially located there, and if they get afflicted, it may lead to death.⁶

CLASSIFICATION OF MARMA

1. **According to their Location:** *Shakhagat* (44), *Madhya Shareergat* (26), *Urdhvajatrugata* (37) [8].

2. **According to Composition: (Predominance of tissue present)** - *Mamsa* (muscle)- 11, *Sira* (vessels)- 41, *Snayu* (Ligaments)-27, *Asthi* (Bones)-8, *Sandhi* (Joints)-20 [9].

3. **According to Effect of Trauma:** *Sadhya pranahara* (19), *Kalantar pranahara* (33), *Vaikalyakara* (44), *Vishalyaghna* (3), *Rujakara* (8).⁷

PHYSIOLOGICAL EVALUATION OF MARMA

Samprapati Ghatakas (*Dosha, Dhatu, Mala, Agni, and Srota*), according to Ayurveda, are crucial for the treatment of any disease, while *Marma* are crucial for the analysis of a disease's prognosis. *Marma* points encourage communication between cells, organs, the body and mind by improving functioning activities and transmitting healing energy.

The *Vikruti* brought on by the vitiation of a certain *Dosha* is eliminated by stimulation of a particular *Marma Sthana*. It maintains the tissue's *Prakruti* and restores its functioning. *Marma* mostly treats *Vata Dosha*. Depending on involvement of *Vata*, different *Marma* points—such as *Prana Vata*, *Samana Vata*, *Apana Vata*, and *Udana Vata* are taken into account for *Vata Vyadhi*. By eliminating *Ama*, they also assist in cleansing the pathways and enhancing body circulation. Pain relief can also be achieved with *marma chikitsa*. *Viruddha Ahara*, inactivity, *Anidra*, stress, and lack of exercise are just a few of the many things that can obstruct the flow of *prana*. The equilibrium of the *Doshas* and *Prana* in that region is disturbed by these. By calming the accumulated *Dosha*, *Marma Chikitsa* enhances the flow of *Prana* and cures pain.

MARMAGHATA (TRAUMA TO THE MARMA SPOTS)

Any damage or injury to the *Marmaghata* points, or *Marma* points, can cause death, severe pain, loss of sensation, loss of function, and disability. Knowing the deadly places (*marmas*) is a key component of the *Shalya Tantra* because any injury to them causes instant death, and if someone survives thanks to the skill of the doctor, deformities are nearly guaranteed to develop.⁸⁻⁹

When *marmas* get injured



all the four kinds of *siras* (*vataavaha*, *pittavaha*, *kaphavaha*, *raktavaha*)-residing in the *marmas* and give nutrition to all body, get injured



that is why large quantity of blood flows out



Dhatu kshya (depletion of dhatus) occurs



Vata get aggravated along with *pitta dosha*
(Aggravated *Vata* covers all four kinds of *siras*)



Causes severe pain, thirst, dizziness, delirium, sweating, weakness, loss of consciousness



Severe injury causes either deformity or death

***MARMAGHATA LAKSHANA*¹⁰**

Acharya Sushruta has mentioned the common symptoms of *Marmaghata* as follows.¹⁰

1. *Bhrama* (giddiness)
2. *Pralapa* (delirium)
3. *Patana* (fainting)
4. *Pramoha* (delusion)
5. *Vicheshtana* (loss of activity of the body parts)
6. *Sanlayana* (semiconsciousness)
7. *Ushnataa* (increase of body temperature)
8. *Srastaangataa* (weakness of body parts)
9. *Murchha* (fainting)
10. *Urdhwavata* (increased expirations)
11. *Vatakrita Ruja* (severe pain caused by *Vata*)
12. *Mansadokabham rudhiram cha gachchheta* (Flowing out blood resembling meat washed fluid)
13. *Sarvendriyaarthoparamastathaiva* (Cessation of activity of all sense organs).

Manibandha marma, *janu marma*, *gulpha marma*, and *kurcha sira marma* injuries are common in sports. Patients' initial complaint in all of these disorders will be discomfort accompanied by swelling, whether or not there is deformity.

***Manibandha marma*¹¹**

Anatomically connected to the radio-ulnar, radiocarpal, radial, and median nerve arteries. if hurt while playing sports, loss of second, third, and fourth finger flexion and extension, as well as adduction of the second, third, and fourth metacarpals. Bleeding may result in discomfort, shock, or infection.

***Kurcha sira of the hand*¹²**

Anatomically associated to the tendon of the abductor pollicis longus, the flexor carpi radialis, the long extensor pollicis tendon, and the short extensor pollicis tendon. if hurt playing sports, haemorrhage from the radial artery, pain from radial nerve damage, and impairment of wrist flexion and abduction.

***Gulpha marma*¹²**

Anatomically connected to the muscles of the flexor hallucis longus and bravis, the posterior tibial artery, and the flexor digital longus. Injury symptoms include: Injury to the joint will result in swelling and compromise the ability to flex and extend.

***Janu marma*¹³**

The articular capsule, fibular collateral ligament, anterior cruciate ligament, posterior cruciate ligament, medial meniscus, and lateral meniscus are the anatomical structures that correspond to this *Marma*. the arcuate popliteal ligament, the meniscus, the transverse ligament, and the coronary ligament. Sport-related knee ligament ruptures can cause uncomfortable swelling, movement restrictions, and occasionally hemarthrosis. A ruptured ligament may also result in improper weight bearing and permanent limping.

***Kurcha shira marma of the foot*¹²**

Peroneus brevis and longus muscle are connected with components anatomically. Peritoneal nerve, short saphenous vein tributaries, and peritoneal artery. a tear in the ligaments and bone may result in considerable discomfort as well as a reduction in the functionality of the foot.

TYPES OF SPORTS INJURIES

Acute-Characterized by sudden appearance of symptoms usually associated with single traumatic incident, caused by excessive force applied to bone or soft tissues during sports activity.

Chronic-These injuries develop from long term repetitive motion in sports like long distance running, cycling and swimming. i.e, stress fracture, tennis elbow etc.

SPORTS RELATED INJURIES IN AYURVEDA

1. *Bhagna* - Bone fracture
2. *Sandhimukta*- Joint dislocation and subluxation
3. *Mamsagat Vata*- Sprain and Fatigue syndrome
4. *Snayugat Vata*- Ligament, Nerve and Bursa injuries
5. *Kandaragat Vata*- Tendon injury

CONCLUSION

Sports are given more and more prominence in the modern world since they are a measure of national pride. The higher level of competitiveness among athletes is the result of fierce ratio of sports injuries, particularly those involving the locomotor system's joints. The most common component of sports injuries is pain, or *ruja*. This article looked at a thorough explanation of *marmaghata* or *viddha lakshanas* (the effects of trauma), as it is described in ancient books from the Samhita kala period. Sports-related injuries to these *Marmas* (*manibandha*, *kurchasira*, *janu*, and *gulpha*) can cause a variety of symptoms, from agony to instant death.

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