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Panchakarma- An Emerging Branch in the Field of Sports Medicine

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ABSTRACT

Ayurveda is a traditional system of medicine originated in Indian sub-continent around 5000 years back. It is a holistic approach to life as well as the disorders. *Panchakarma* is a branch of *Ayurveda* which mainly comprises of five bio-purificatory processes. Sports medicine, a branch of medicine that deals with physical fitness of the athletes and prevention, treatment and rehabilitation of injury related to sports and exercise. There are scattered information of sports injuries and their prevention as well as management in different *Ayurvedic Shamhitas*. *Purvakarma*, *pradhankarma* and *pachyad karma* procedures of *panchakarma* can be utilised in the management of sports injury. *Abhyanga*, *Tarpan*, *Nadiswedan*, *Upanaha*, *Basti* etc. procedures can be used depending upon the various types and stages of sports injuries. These therapies affects by local and systemic action. There is every potential of *panchakarma* to contribute to the field of *ayurvedic* sports medicine.

KEYWORDS

Ayurveda, *Panchakarma*, *Sports medicine*, *Abhyanga*, *Basti*



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INTRODUCTION

Sports has been part and parcel of human life since time immemorial. The ever growing popularity of sports worldwide has made the sports industry extremely competitive. Any game activity needs physical efforts and skill, which is being played according to certain rules for enjoyment or job is called sports¹. Any kind of discontinuity to the soft and hard tissue of the athletes during game activity is termed as sports injury¹. Sports injury causes both physical and emotional burden to the athletes, who are under pressure to return to playground as soon as possible.

Adolescent athletes are the most commonly injured in the playground. The common type of injuries seen in playground are sprains, strains fractures, overuse injuries, wounds, epiphyseal injuries, stress fractures and dislocations². In boys the highest rate of sports injuries are in football and basketball, and in girls hockey, soccer and basketball^{3,8-11}. Sports injuries are because of a variety of factors that interact at the time of injury. May be intrinsic (personal, host), extrinsic (environmental) and previous injury which may cause injury in up to 50%-70%^{4,6}. Poor training method, anatomical abnormalities, poor physical strength, environmental factors and unhealthy

psychological state are the common risk factors of sports injury. Sports related injuries to the lower extremities are more common. Soft tissue injuries are more commonly seen than hard tissue injury in playground. 30% of Indian population are engaged in various sports of which 60% reported to be injured during game. 50% of all the sports injury are because of running alone⁴.

The treatment principle of acute sports injury in R(rest), I(ice), C(compression), E(elevation). In chronic cases, physiotherapy along with medication plays an important role. Although there is good facilities of management in the contemporary science of medicine, there is recurrence rate of especially musculo-skeletal injuries as high as 80%. Persisting chronic symptoms of injuries also oblige athlete to discontinue the game. Higher rate of side effects of allopathic medications and post-surgical complications also creates lots of problems to the sports-persons. *Ayurveda* deals with preventive, promotive, curative and rehabilitative aspect sports injury.

Sports Medicine

Sports medicine is a branch of medicine that deals with physical fitness, treatment and prevention of injuries related to sports and exercise⁵. It is only since the late 20th century that sports medicine has emerged



as a special field in medicine. It aims at sporting performance enhancement including nutrition, equipment and training. The prevention and treatment of sports injuries and medical symptoms associated with sport and exercise. A team of physician and surgeon from different field i.e. medicine, orthopaedic, psychiatrist, physiotherapist are involved in the management of sports injury.

Ayurveda and Sports Medicine

Ayurveda is a life science. It amalgamates the human science with the art of living. We can find description of *vyayama* and role for physical fitness in *Dhanurveda*, *Ramayana*, *Chanakyanitishastra*, *Shakuntal*, *Hathayogpradeepika*, *Eitariya-brahmanetc.* ancient Indian classics⁶. In *Ayurvedic* classics right from *dinacharya*, *achar rasayana* of *Sutrashtana* to *astamahadosha parihaar bhava* of *siddhisthana*, there are so many descriptions related to sports medicine. There is no description of separate branch named correlating to sports medicine in *ayurveda*. But core observation reveals that there are enormous descriptions in relation to physical fitness, enhancing performances in various games as well as in war, various sorts of injury in playground, battle field and their management.

Disease Review

Sports injuries are due to direct, indirect, twisting force and repetitive overuse injury. The injuries are classified as soft tissue (muscle, tendon, ligament) injury or hard tissue (bone and tooth) injury. Injuries are divided into acute and chronic. In *Ayurvedic* point of view, Sports injury can be classified under *aagantuja vyadhi*. *Acharya Charak* has mentioned the causes of *aagantuja vyadhi* as *patana*, *peedana* etc.⁷. Acute sports injuries can be studied under the headings of

1. *Aagantuja sotha*
2. *Sadyo vrana*
3. *Bhagna*
4. *Vranashopha*

The *aagantuja vyadhi* if not treated or rehabilitated properly, it converts to *nija vyadhi*. In *aagantuja vyadhi*, *ruja*(pain) is the most prominent feature, *doshik* involvement is not there. As time passes, *doshik* involvement occurs and converts to *nija roga*. With the involvement of *doshas*, the injury shows sign and symptoms according to the predominant *dosha*. Chronic sports injury can be studied under the headings of

1. *Vaat vyadhi*
2. *Asthibhanga*
3. *Asthiikshaya*
4. *Asthitoda*
5. *Asthivrana*
6. *Dwijaprapatan*



7. *Bhagna*
8. *Kandaragata vata*
9. *Mamsagata vata*
10. *Sandhimukta*
11. *Asthibhanga*

Different types, stages of sports injuries can be understood with the help of above headings in *Ayurveda*. Then, the management can be planned accordingly.

Treatment Protocol for Sports Injury

The treatment principle of acute sports injury are- R-rest, to avoid exercise, physical activity. it prevents further damage by reducing movement. I-ice, application of ice pack to the affected area for 15-20 minutes every two to three hours. Cold reduces pain and helps in reducing inflammation. C-compression, use of elastic compression bandages helps to limit swelling. E-elevation, keep the injured body part raised above the level of your heart, it helps to reduce oedema. This principle is followed for mild to moderate injury within the first 24 to 36 hours. If the injury is severe, it is treated accordingly. In chronic cases, physiotherapy along with medication plays an important role. Although there is good facilities of management in the contemporary science of medicine, there is recurrence rate of specially musculo-skeletal injuries as high as 80%. Persisting chronic symptoms of injuries also oblige athletes to discontinue

the game. Higher rate of side effects of allopathic medications and post surgical complications also creates lots of problems to the sports-persons. The basic principles of *ayurveda* are being applied in the management of various stages of injuries in the field. In acute cases *hetu pratyantik* and *vyadhipratyanik chikitsa* is beneficial. Whereas, in chronic sports injury cases proper *samprapti* is to be made depending upon the *dosha*, *doshya*, *adhistan*, *srota* etc. and *samprapti vighatanachikitsa* or therapy should be done.

Sports medicine is a separate medical speciality in modern medicine. In *Ayurvedic* classics there is no description of separate branch named correlating to sports medicine. But core observation reveals that there are enormous descriptions in relation to physical fitness, enhancing performances in various games as well as in war, various sorts of injury in playground, battle field and their management.

Panchakarma can help in preventive, promotive, curative and rehabilitative aspect to the field of sports medicine.

Panchakarma in preventive and promotive aspect

1. *Snehan* Ex. *Abhynga*, *Avagaha*, *Sambahana*, *Unmardana*, *Akshi tarpana*, *Karna purana* etc.

2. *Swedan* Ex. *Vyayama*, *Ahava*, *Aatapa*,



Avagaha, Vaspa sweda, Swastik-Shali panda sweda etc.

3. *Basti* Ex. *Anuvasana and Niruha Basti* with different drugs according to the necessity etc.

4. *Virechan* Ex. *Mridu Sneihik Virechan* etc.

Panchakarma in Curative and Rehabilitative aspect

A) *Acute (mild to moderate) injury*

Bandhan, Parishek, Dhara, Kaya seka, Avagah swedan, Nadi swedan, Valuka swedan, Upanah, Raktamokshan etc.

B) *Chronic injury*

Virechan, Nasya, Basti, Upanaha, Swastik shali panda swedan etc.

The basic principles of *ayurveda* are being applied in the management of various stages of injuries in the field. In acute cases *hetu pratyani* and *vyadhipratyani* *chikitsa* is beneficial. Whereas, in chronic sports injury cases proper *samprapti* is to be made depending upon the *dosha, doshya, adhisthan, srota* etc. and *samprapti vighatanachikitsa* or therapy should be done.

The diet and regiments those are mentioned in *Dinacharya* and *Ritucharya* are very helpful for sports persons to maintain a proper physical strength. A sound and focused mind is also necessary for athletes. *Acchar rasayan*, is helpful for focused and powerful mind of athletes.

DISCUSSION

Probable Mode of Action

Snehana: *Sneha* pacifies abnormal *vata*, renders the body soft and clears the accumulated wastes in the body. It promotes the body strength and integrity of senses. *Abhyanga, Sambahana* increases arterial blood flow to the muscle and skin, soothes and stimulates the nerves hence increases the power and tone of muscles, tendons and ligaments. *Tarpana* relaxes eye muscles, improves vision.

Swedana: *Swedana* dissolves the waste products metabolism and thereby expels out through sweating. Local hyperthermia produced during *swedana*, improves local blood and lymphatic circulation and thereby helps in decreasing chronic inflammation in the injury site. It relaxes local musculature by physical effect of heat and thereby reduces stiffness and spasm of different muscles, increases the flexibility of the body. Hyperthermia increases the rate of trans dermal drug delivery thereby helps in absorption of drugs used for *swedana karma* or prior *snehana karma*. In chronic/repetitive soft tissue injury during various games, various *swedana* i.e. *nadi swedana, valuka valuka sweda, dhara* etc. are very effective. In chronic muscle wasting, neurological cases, *Shastik shali panda sweda,*



Godhuma panda sweda are helpful for stimulating neuro-muscular functions.

Basti: Basti is the best treatment for disarranged vata dosha, whereas it can be used for all vitiated doshas. It nourishes all the dhatus, relieves stiffness, contraction and adhesion. It is effective in the healing process of torn ligaments, tendons and fractured bone.

Virechan: Mild therapeutic purgatives can be used in chronic inflammatory cases of musculo-skeletal system. It helps in reducing chronic inflammation.

Nasya: The drug administered through nose as nasya reaches to the Shringataka marma (Sira Marma) and nourishes all the sense organs. Proper functioning of the sense organs are of prime importance for an athlete. The nasal mucosa is the only location in our body that provides a direct connection between the central nervous system (CNS) and the atmosphere. Drug administered to the nasal cavity rapidly traverse through the cribriform plate into the CNS. Thus, nasya is an easy and effective modality in the management of sports injuries.

Raktamooksha: Blood letting procedures help in reducing local inflammation, pain and swelling. Leech therapy is very helpful in acute injuries. Blood letting procedures help in reducing local inflammation, pain and swelling. It removes the old/damaged

blood cells and helps in formation of new blood cells locally as well as in the system as a whole. Leech therapy is very helpful in acute injuries. The saliva of leech contains enzyme called hirudin in which works as anticoagulant, diuretic, antimicrobial. Calin, which prevents blood coagulation, Eglin, Hyaluronidase acts as antithrombin, antitrypsin and antichymotrypsin etc. It enhances wound healing and has immunomodulatory effect.

Shirodhara: The procedures like Shirodhara, Murdhnitaila, Talam etc. procedures stabilize the mental faculty. It increases serotonin level in the blood, induces sleep. Hence, helpful in the management of psychological distress related to sports.

Kati basti etc.: Basti that are applied locally like Kati basti, Janu basti, Urah basti etc. are meant for local healing and to reduce inflammation locally. It gives strength to local muscles, tendons, ligaments etc. Local hyperthermia provides flexibility to the joints.

CONCLUSION

Ayurvedic sports medicine is a newly evolved promising branch in the field of *Ayurveda*. *Panchakarma* can contribute a lot to this field. To improve physical and mental fitness, enhance the performance in



the field and to prevent sports related injury as well as illness – *panchakarma* can contribute a lot. *Panchakarma* procedures can handle both acute and chronic injuries in the field except major surgical conditions. Rehabilitation of the sports-persons is a crucial part of management, *panchakarma* has an important role in this field. In fact, the integrated approach of modern sports medicine, physio-therapy along with holistic science of *Ayurveda* would be a milestone in the field of physical medicine.



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