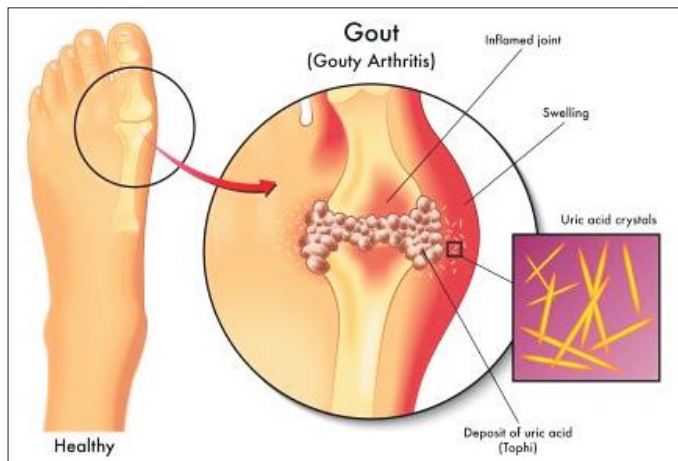


ANATOMICAL CONSIDERATION OF GULPHA SANDHI W.S.R. TO IT'S CLINICAL APPLICATION

¹Dr. Hrishikesh D. Sawant and ²Dr. Suvarna M. Dhawale

¹PG Scholar, Dept. of Sharir Rachana, B.S.D.T'S Ayu. Mahavidyalaya, Wagholi, Pune.

²Asst. Professor, Dept. of Sharir Rachana, B.S.D.T'S Ayu. Mahavidyalaya, Wagholi, Pune.



ABSTRACT

Sushrut Samhita – An Ayurvedic classical text is basically a surgical text. Sushruta Samhita is the oldest available text on surgery in the world dating back to a time between 300 to 3000 B.C. Gulpha Sandhi is the structure well described in Sushrut samhita under the topic of Sandhi Sharira. Gulpha Sandhi (Ankle Joint) is chief joint of lower extremities which mainly associates with the locomotion and balances the weight of body. Now-a-days Sport injuries and accidental injuries to the Gulpha Sandhi are commonly found. As Gulpha

Sandhi is a location of Gulpha Marma, it should be protected. Therefore from this point of view Surgeon or Physician should have a good knowledge of Gulpha Sandhi and related structures.

KEY WORDS

Gulpha Sandhi, Marma, Sushrut Samhita, Vata (Functional element)

INTRODUCTION

Ayurveda is an ancient medical science which was developed in India thousands of years ago. Ayurveda developed and evolved into what it is today from several ancient treatises. Charakasamhita, Sushrutasamhita and Ashtanga Hridaya are the main Ayurveda treatises which are collectively called as Ayurveda 'Brihat – Trayees'. Among these, Sushrutasamhita is an ancient Sanskrit text on Medicine and Surgery. The Sushrutasamhita is of great historical importance as it includes historically unique chapters describing surgical training, Instruments, and Procedures. However, whatever we know about ancient Indian Surgery is from the preserved Sushrutasamhita. Sushrutasamhita mainly emphasised the need of good knowledge of Sharir Rachana (Anatomy). Sushruta is known as first medical person in the world to undertake the dissection of human cadaver, observe all its part minutely and describe them. Gulpha Sandhi (Ankle joint) is one among such structure described by Sushruta while explaining Sandhisharir(Arthrology).

AIMS AND OBJECTIVES

1. To study the structure Gulpha Sandhi as described in Sushrutasamhita.
2. To find the anatomical correlation of Gulpha Sandhi.
3. To emphasize the importance of Gulpha Sandhi in Clinical and Surgical practice.

MATERIALS

1. Classical text of Ayurveda – Sushrut samhita.
2. Books on Anatomy.

FUNDAMENTAL STUDY OF GULPHA SANDHI

Sushrutacharya has stated that there are 210 Sandhi (joints) in human body. Classification of Sandhi is given in Sushrutasmhita based on Rachana(structure) and Kriya (function). As per Sushrutacharya on the basis of structure Sandhi are classified into 8 types, as follows-

- * Kora
- * Ulukhala.
- * Samudga.
- * Pratara.
- * Tunnasevani.
- * Vayastunda.
- * Mandala.
- * Shankhavarta.

And on the basis of function Sandhi are classified into 2 types as

- * Chestavant or Chala (movable)
- * Sthira (non movable)

Kora is of Chala variety sandhi. In human body Anguli, Manibandha, Gulpha, Janu, Kurpara sandhis are kora sandhis. Gulpha Sandhi is Kora variety sandhi. Gulpha sandhis are 2 in number one in each limb. It is located in between Pada and Jangha. Some important points about Gulpha Sandhi mentioned in Sushrutasmhita are as follows-

- * The circumference of Gulpha Sandhi mentioned by Acharya Sushruta is 14 Angula (~35cm)
- * 2 Janghasthi and 2 Gulphasthi are involved in the formation of Gulpha sandhi.
- * Prathanavati type of Snanyu (ligament) is present in Gulpha pradesha.
- * 4 Adhoshakhagata Kandara are associated with Gulpha Sandhi.
- * 8 Jala are present in Gulpha Sandhi, 4 in each Sandhi.
- * Among the 14 Asthisamghata in body, 2 are present in Gulpha Sandhi (one in each Sandhi).
- * Gulpha Sandhi is nourished by Adhogata Dhamani and Sira.
- * Among the 107 Marma present in the body, Marma located in Gulpha pradesha, is Gulpha Marma. It is termed as Sandhi Marma and Rujakara Marma.

CLINICAL APPLICATION

1. Gulpha Sandhi is one of the chief Sandhi (joint) of the lower extremities. It is mainly associated with locomotion and balances our body weight.
2. Marma is the unique concept which is described in Ayurveda. Marma are considered as the vital points in the body where the life force energy is concentrated. Marnas are the meeting place of Mansa (muscles), Sira(vessels), Snayu(ligaments), Asthi(bones), and Sandhi(joint). There are 107 Marma present in our body. Marma are classified anatomically into 5 types depending upon the predominance of anatomical structure present at that point. They are Mansa Marma(Muscular), Sira Marma(Vascular), Snayu Marma(Ligament), Asthi Marma(Bone), and Sandhi Marma(Joint). Among these types Gulpha Marma located at Gulpha Sandhi is Sandhi Marma. According to prognostic classification of Marma, Gulpha Marma is considered as 'Rujakar Marma'. As Marma are considered as energy points, any type of injury to this place can result into serious consequences. Sushrutacharya mentioned Gulpha Marma Viddha lakshanas like Ruja(pain),

Stabdhapadata(stiffness) and Khanjata in Shushrutsamhita

3. Gulpha Sandhi is the place where Vata Dosha (one of the functional element of the body) resides. Vata is the chief factor responsible for various physiological activities in human body. When Vata Dosha at Gulpha Sandhi is vitiated by any internal or external factor, it results into instantaneous manifestation of disease and it may produce pain, stiffness, sprain, swelling, fracture, etc.

4. While performing Agnikarma(cauterisation procedure with heat) and Ksharkarma(herbo-mineral salts), the Surgeon should protect Gulpha Marma.

5. As Gulpha Sandhi is the weight bearing Sandhi of body it should be protected from fracture, as healing of related bone is difficult and delayed.

DISCUSSION

The fundamental study of Gulpha Sandhi provides certain points for consideration, which are as follows-

1. Gulpha Sandhi is weight bearing Sandhi of body.
2. It is mainly associated with locomotion and balances the weight of body.
3. Injury or damage to Gulpha Sandhi whether it is internal or external produces severe pain, stiffness, sprain, swelling, and fracture.
4. Gulpha Sandhi is the location of Gulpha Marma which is to be protected.

In classic Ayurvedic text, few Vyadhi(diseases) are mentioned which involve Gulpha Sandhi. Gulpha Sandhi is mainly Sthana of Vata which is responsible for the functioning of the Sandhi. Most of the diseases where Gulpha Sandhi is involved are due to the vitiation or aggravated Vata. Therefore the symptoms arose in the diseases of Gulpha Sandhi show relief when treated with the regimen of Vata. Such diseases involving Gulpha Sandhi mentioned in Ayurvedic text are as follows-

- * Amvata is a disease in which vitiation of Ama (undigested food material) and Vata (functional element of body) takes place separately. The signs and symptoms of Amavata present at the Gulpha Sandhi are mainly Shotha (inflammation), Sthabdata (stiffness), Ruja (pain).
- * Sandhigata Vata is a disease due to vitiation of Vata Dosha mainly. The main symptoms of Vata Dosha vitiation at Gulpha Sandhi are Ruja (pain), Kriyalpata (loss of movement of joint)
- * Acharya Charaka has described Vatarakta due to vitiation of Vata and Rakta Dosha. The signs and symptoms of Vatarakta present at the Gulpha Sandhi are Atiruja (pain), Sandhishaitilya, and Sandhibhedana.

According to Ayurvedic treatises, general treatment module of Vata is Snehana (oil application-internal and external), Swedana (steam), Agnikarma (cauterization), Basti (enema) and so on, as per the requirements of the disease.

GULPHA SANDHI – ANKLE JOINT (MODERN ASPECT)

Ankle joint is a Hinge variety Synovial joint. Functionally, Ankle joint is Diarthrosis joint that is freely movable joint. It is one of the most stable joint of human body which is present at the junction of bones of leg and foot.

ANKLE JOINT IS FORMED BY FOLLOWING STRUCTURES

Bones- Articular lower end of Tibia and Fibula superiorly and inferiorly superior surface of body of talus bone.

Ligaments – Ligaments associated with Ankle joint are fibrous capsule, medial ligament and lateral ligament.

Tendons – Tendons related to Ankle joint are – Tendons of Tibialis posterior, Flexor digitorum longus,

Extensor hallucis longus, peroneus bravis and peroneus tertius muscles.

ANKLE JOINT RELATED DISEASES AND PROBLEMS ARE AS FOLLOWS

1. Ankle Osteoarthritis
2. Ankle Gout
3. Ankle fractures
4. Ankle sprains
5. Ankle joint related tendonitis.

CONCLUSION

The knowledge of Gulpha Sandhi is helpful to physician as some Vyadhi are associated with Gulpha Sandhi. In Sushrutasamhita, Sushruta- 'Father of Surgery' has given very good description of Gulpha Sandhi regarding its Structural and Clinical aspect. The understanding of various structures associated with Gulpha Sandhi (Ankle joint) can help Surgeon while performing minor or major Surgical procedures. Also Gulpha Sandhi is the location of Gulpha Marma. The Viddha Lakshnas of Gulpha Marma like sprain, stiffness, pain, which have become common now-a-days due to sports, excessive exercises in gym and due to excessive heavy work of Ankle joint or due to various accidents. So, knowledge of Marma can help in better treatment of above mentioned symptoms.

REFERENCE

1. Sunil kumar Joshi, Marma Science and Principles of Marma therapy. 1st ed. Delhi, Vani Publications; 2010
2. K.R. Srikantha Murthy editor. Sushruta Samhita. 1st ed. Varanasi, Chaukhamba Orientalia; 2001
3. Yadavji Trikamji Acharya, Narayan Ram Acharya, editors. Sushrut Samhita with Nibandhasangraha commentary by Dalhana .8th edi. Varanasi. Chaukhamba Orientalia 2005; p- 366-367.
4. Yadavji Trikamji Acharya, Narayan Ram Acharya, editors. Sushrut Samhita with Nibandhasangraha commentary by Dalhana .8th edi. Varanasi. Chaukhamba Orientalia 2005; p- 150.
5. Yadavji Trikamji Acharya, Narayan Ram Acharya, editors. Sushrut Samhita with Nibandhasangraha commentary by Dalhana .8th edi. Varanasi. Chaukhamba Orientalia 2005; p- 370-371.
6. G.J.Romanes. Cunningham's manual of Practical Anatomy.Vol-1 15th edi. Oxford Medical Publication; Reprint 2012.
7. Vaidya.Yadavji Trikamji, Charak Samhita, Chaukhomba Prakashan, Varanasi Reprint, 2013, p- 629.
8. Vaidya.Yadavji Trikamji, Charak Samhita, Chaukhomba Prakashan, Varanasi Reprint, 2013, p- 618.