

Conceptual Study of Gulpha Sandhi Shareera

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Abstract: *A human being is a complex creation of God. Humans have got a supporting skeletal frame work, by which he is able to make swift movements, maintain an erect posture. Gulpha sandhi is considered as ankle joint. Our classics have been given scattered references regarding gulpha sandhi shareera. According to Sushruta acharya Gulpha sandhi is adhoshakhagata sandhi which is two in number. Detailed description about sira, dhamani, snaayu, peshi etc. related to Gulpha pradesha is not found in the classical texts of Ayurveda. Knowledge regarding these structures of Gulpha pradesha is very much necessary to understand the disease condition affecting this particular region and thereby to plan better management procedure. Gulpha sandhi is described as the ankle joint which is mentioned as Adhoshakhagata sandhi of two in number. It comes under the kora variety of Cheshtavantha Sandhi.*

Keywords: *Gulpha Sandhi, Ayurveda, Ankle joint*

I. INTRODUCTION

Detailed knowledge of the human body is conducive to the well being of the individual. *Asthis* (bone) plays important role in the *Dharana karma* of *Shareera* and they are joined together with the help of *Mamsa*, *Sira*, *Snayu* binding together to form the *Sandhis*.

Gulpha Sandhi is a joint of the lower limb and it may co-relate with Ankle joint. The proper functioning of the *Gulpha sandhi* (ankle joint) is must in the field of sports, dance performance, drama where the movement of *Gulpha sandhi* is commonly Involved.

Concept of *Gulpha Sandhi* –

Historical Review of *Gulpha Sandhi* –

Vedic Kala - In *Samaveda*, the word '*Gulpha*' is mentioned only, there is no other description found related to it.

Pauranika Kala - The word '*Gulpha*' is also mentioned in the *Ramayana*.

Samhita Kala -

Charaka Samhita - Acharya Charaka described the *Gulpha Sandhi*, in the *Shareerasthana*, 7th *Adhyaya*¹.

Sushruta Samhita -

In *Shareerasthana*, Acharya Sushruta mentioned the *Gulpha Sandhi* as *Kora* type of *Sandhi*.

The number of *Peshi*, *Snayu*, *Jala* etc. Which are presents in the *Gulpha*, are explained in the *Shareerasthana*².

Also Sushruta described the *Gulpha Marma* in 6th *Adhyaya* of *Shareerasthana*.³

Ashtanga Hridaya -

In *Shareerasthana*, *Gulpha Sandhi Shareera* and *Sankhya Shareera* are mentioned⁴.

Gulpha Marma is also explained in *Shareerasthana*, 4th *Adhyaya*⁵.

Ashtanga Sangraha :

Here, in *Ashtanga Sangraha* also *Gulpha Sandhi Marma* is explained⁶.

In *Shareerasthana*, *Sandhi Shareera* along with the *Gulpha Sandhi Shareera* is mentioned⁷.

Kashyapa Samhita - In *Kashyapa Samhita*, among the 360 *Sandhi*, *Kashyapa* mentioned the *Gulpha Sandhi* one of them⁸.



Bhavaprakasha - In Poorvardha 3rd Adhyaya, in *Gulpha Sandhi Shareera*, he explained that the *Gulpha Sandhi* is one of the type of *Kora Sandhi*⁹.

***Gulpha Sandhi Shareera* –**

‘*Gulpha Sandhi*’ is the one of the Main *Sandhi* of Lower extremities which is associated with locomotion and balance of body weight. It is one of the *Kora* type of *Sandhi*¹⁰; which is of two in numbers [on each side of the limb]¹¹. At the joining point of *Pada* and *Jangha*, there is location of *Gulpha Sandhi*; as per *Acharya Sushruta*¹². According to *Bhela*, *Gulpha* is mentioned among the *Pratyanga*¹³. As per *Raja Nighantu*, *Gulpha* is *Sandhi bhaga* of *Jangha* and *Pada*¹⁴.

Etymology of *Gulpha* -

The word ‘*Gulpha*’ has been derived from the root word of *Sanskrita* - ‘*Gal*’ *Dhatu* - to go, and ‘*Fak*’ *Pratyaya*¹⁵.

Synonyms of *Gulpha Sandhi* –

Khudika, *Padagranthi*, *Gulpha*, *Ghatika*, *Ghati*¹⁶.

Location of *Gulpha Sandhi* –

It is located in between the *Jangha* and *Pada Pradesha*¹⁷.

Pramana of *Gulpha Sandhi* –

According to *Acharya Sushruta*, the circumference of the *Gulpha Sandhi* is mentioned as 14 *Angula*¹⁸.

Structures presents in the *Gulpha Sandhi* –

Asthi, *Peshi*, *Snayu*, *Kandara*, *Sira*, *Dhamani*, *Jala*, *Sanghata*, *Simanta*, *Marma*.

***Marma* located at the *Gulpha Sandhi* :**

Marma’s are the meeting point of *Mamsa*, *Sira*, *Snayu*, *Asthi* and *Sandhi*¹⁹.

In *Gulpha Sandhi* region, *Gulpha Marma* is located.

This *Gulpha Marma* is presents at the meeting point of *Pada* and *jangha*; and also it is one of the *Rujakara*²⁰, *Sandhi Marma*²¹.

Modern review –

Ankle joint –

Synonym - Talocrural joint

It’s a Uniaxial Synovial joint of Hinge variety.

Since the axis of movement is basically transverse with a slight downward inclination on the lateral side, it’s a Modified Hinge joint²².

Articular surfaces -

Above - Inferior articular surface of lower end of tibia with its medial malleolus and lateral malleolus of fibula: articular surface of both bone forms a tibio-fibular mortise, the posterior margin of which is deepened by the inferior transverse tibio-fibular ligament. The mortise receive the body of talus from below. The tip of the lateral malleolus lie 2 cm below that of medial malleolus. The epiphysial plate of the lateral malleolus corresponds with joint space and that of medial malleolus is situated 1.25 cms above the joint.

Below - The trochlear upper surface of body of talus with comma shaped facet for tibial malleolus and a triangular facet for fibular malleolus; these three articular areas form a continuous surface known as trochlea talli. The upper surface of the talus is convex from before backward and gently concave from side to side. The comma shaped facet is restricted to the upper part of medial surface. The triangular facet for fibula occupies the entire lateral surface of the talus, is gently concave from above downward and faces upward and laterally.

The posterior part of lateral margin of talus, between the trochlear and fibular facet form a triangular flattening which comes in contact with inferior transverse tibiofibular ligament²³.



Discussion –

Gulpha sandhi is located in between *pada* and *jangha*. The ankle joint present at the junction of leg and foot can be understood as the same. *Acharya Sushruta* opines that 14 *angula* is the circumference of *Gulpha sandhi*. There is no reference regarding the measurement of ankle joint in modern anatomy. Our *acharya* have enumerated 2 *Gulpha sandhi* in our body, which is present in between *pada* and *jangha*. The ankle joint present at the junction of leg and foot can be understood as the same. In our *classics gulpha sandhi* is mentioned as kora variety *cheshtavantha sandhi*, whereas the ankle joint will come under the synovial joint of hinge variety. From this we can infer that synovial joints are movable joints.

II. CONCLUSION

As *Gulpha* is one of the *Chestaavantha sandhi*, we can see *shleshmadhara kala* in it. That can be correlated to synovial membrane situated in the joint, which secretes synovial fluid. *Shleshaka kapha* present in the *sandhi* can be correlated to synovial fluid. As wheel moves freely by lubricating the axis, *sandhi* also function properly if supported with *kapha*. Synovial fluid also acts as a lubricant which increases joint efficiency and reduces joint erosion of articular surfaces.

REFERENCES

1. Charaka Samhitha with Ayurveda Dipika commentary of Chakrapanidatta; Edited by Harisha Kushwaha ; Shareera sthana 7th adhyaya, shlok no. 6, Chaukambha Orientalia; Varanasi; Reprint 2018; Page No.: 846.
2. Sushruta, Kaviraj ambikadutta shastri, P.M.Mehta, Sushruta samhita, Shareera sthana, adhyaya 5th, shlok no.46, Vol.1, Choukhambha Sanskrit sansthan, Varanasi, reprint 2015,63.
3. Sushruta, Kaviraj ambikadutta shastri, P.M.Mehta, Sushruta samhita, Shareera sthana, adhyaya 6th, shlok no.7, Vol.1, Choukhambha Sanskrit sansthan, Varanasi, reprint 2015,68
4. Vagbhata, Brahmanand Tripathi, Ashtang Hridaya, Shareera sthana, adhyaya 3rd, shlok no.15, Choukhambha Sanskrit Pratishthan, Delhi, reprint 2014, 368-369.
5. Vagbhata, Brahmanand Tripathi, Ashtang Hridaya, Shareera sthana, adhyaya 4th, shlok no.44, Choukhambha Sanskrit Pratishthan, Delhi, reprint 2014, 395.
6. Vagbhata, Kaviraj A.Gupta, Rajvaidya P. Sharma, Ashtang Sangraha, Shareera sthana, adhyaya 7th, shlok no.29, Vol. 1, Choukhambha Krishnadas Academy, Varanasi, reprint 2011, 318.
7. Vagbhata, Kaviraj A.Gupta, Rajvaidya P. Sharma, Ashtang Sangraha, Shareera sthana, adhyaya 5th, shlok no. 77, Vol. 1, Choukhambha Krishnadas Academy, Varanasi, reprint 2011, 305.
8. Kashyapa, Kashyapa Samhitha Text with English Translation and commentary by Hemaraj Sharma: Shareera thana, Adhyaya 4th, Shlok no. 1-2, Chaukambha Sanskrit Sansthan: Varanasi: 2021,Page No:108-109.
9. Bhavamishra Brahma Shankar Misra, editor. Bhavaprakasha Part I Edited with vidhyotini Hindi commentary by Pandit Sri. Brahma Shankar Misra Sri Ruplalaji vaishya, Purvakhanda, 3rd adhyaya, Part-1. 11th edition. 2009. Chaukambha Sanskrit Bhavan: Varanasi: Pp: 656; page No. 75.
10. Sushruta, Kaviraj ambikadutta shastri, P.M.Mehta, Sushruta samhita, Shareera sthana, adhyaya 5th, shlok no. 32, Vol.1, Choukhambha Sanskrit sansthan, Varanasi, reprint 2015, 61.
11. Sushruta, Kaviraj ambikadutta shastri, P.M.Mehta, Sushruta samhita, Shareera sthana, adhyaya 5th, shlok no. 28, Vol.1, Choukhambha Sanskrit sansthan, Varanasi, reprint 2015, 61.
12. Sushruta, Kaviraj ambikadutta shastri, P.M.Mehta, Sushruta samhita, Shareera sthana, adhyaya 5th, shlok no. 32-33, Vol.1, Choukhambha Sanskrit sansthan, Varanasi, reprint 2015, 61.
13. Bhela, Bhela Samhitha:Text with English Translation Edited by Dry K H Krishnamurthy:Edited by Priyavat Sharma: Chaukambha Vishwa Bharati Varanasi: Reprint 2008: Pp: 660: Page No.: 236.
14. Pandit Narahari. Raja Nighantu with Dravyaguna Prakashika Hindi commentary by Dr. Indradeva Tripathi: Edited by dr. Indradeva Tripathi: 4 edition: Chaukambha Krishnadas Academy: Varanasi: 2006: Pp: 703: Page No: 584.



15. Pandit Kulapathi Jibananda Vidyasagar Sabdasaagara; 2002, Pp: 840; Page No.: 242.
16. Raja Radhakantadeva, Shabdakalpadruma 5 Part: Edited by Shivaradaprasadvasuna and Sriharicharanavasuna; Naga publishers: Delhi: Reprint 1987; Pp: 792; Page No.: 342.
17. Pandit Narahari, Raja Nighantu with Dravyaguna Prakashika Hindi commentary by Dr. Indradeva Tripathi: Edited by dr. Indradeva Tripathi; 4th edition: Chaukambha Krishnadas Academy: Varanasi: 2006: Pp: 703; Page No: 584.
18. Sushruta, Kaviraj ambikadutta shastri, P.M.Mehta, Sushruta samhita, Sutra sthana, adhyaya 35th, shlok no. 12, Vol.1, Choukhambha Sanskrit sansthan, Varanasi, reprint 2015, 168.
19. Sushruta, Kaviraj ambikadutta shastri, P.M.Mehta, Sushruta samhita, Shareera sthana, adhyaya 6th, shlok no.3, Vol.1, Choukhambha Sanskrit sansthan, Varanasi, reprint 2015, 67.
20. Sushruta, Kaviraj ambikadutta shastri, P.M.Mehta, Sushruta samhita, Shareera sthana, adhyaya 6th, shlok no. 14, Vol.1, Choukhambha Sanskrit sansthan, Varanasi, reprint 2015, 69.
21. Sushruta, Kaviraj ambikadutta shastri, P.M.Mehta, Sushruta samhita, Shareera sthana, adhyaya 6th, shlok no. 7, Vol.1, Choukhambha Sanskrit sansthan, Varanasi, reprint 2015, 68.
22. Datta A. K., Essentials of Human Anatomy Part III (Superior and Inferior Extrimities); 4th edition; Current Books International; Kolkatha; 2007; Pp: 274; Page No.: 243.
23. Datta A. K., Essentials of Human Anatomy Part III (Superior and Inferior Extrimities); 4th edition; Current Books International; Kolkatha; 2007; Pp: 274; Page No.: 244

