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Review on *Sandhi Moksha* w.s.r. to Hip Joint Dislocation

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ABSTRACT

In Ayurveda, orthopaedic conditions are explained by *Acharya Susruta* under the heading of *Bhagna Chikitsa*.^[1] *Bhagna* is classified into *Kanda Bhagna* (fracture) and *Sandhi Moksha* (dislocation of joint).^[2] In present era *Sandhi Moksha* is commonly seen due to RTA, occupational and sport injuries, also in degenerative changes of joints. *Acharya Susruta* has described the causes, different types with *Lakshanas* and management of *Sandhi Moksha*.^[3] Here with the understanding of hip joint dislocation which is a typical ball and socket joint, the concept of *Sandhi Moksha* is explained and can be understood further.

Key words: *Sandhi, Sandhi Moksha, Kanda Bhagna.*

INTRODUCTION

The part where two *Asthi* are held together is called as a *Sandhi*. *Sandhi* helps to do *Cheshta* or actions by the *Sharira*. *Sandhi* is supported by *Snayu, Mamsa* and *Twak*.^[4] *Sandhi Moksha* or *Sandhi Mukta* is a condition when either one or both of *Asthi* become separated from the *Sandhi*.^[5]

The musculoskeletal system provides form, support, stability and movement to the body. It is made up of the bones of the skeleton, muscles, cartilage, tendons, ligaments, joints and other connective tissue that supports and binds tissues together.^[6]

Dislocation of the hip is a common injury to the hip joint. Dislocation occurs when the ball-shaped head of

the femur comes out of the cup-shaped acetabulum set in the pelvis.^[7]

This may happen to a varying degree. A dislocated hip, much more common in females than in males, is a condition that can either be congenital or acquired.^[8]

To bring back a dislocated joint to its normal structure and function is an important need to be met by all areas of medical science. Hence an integrated medical approach is essential.

Description of *Sandhis*

Classification^[9]

There are two hundred and ten *Sandhis* in human body.

Classification of *Sandhi*

▪ According to movement

<i>Chestavandha</i>	Movable joints
<i>Sthira</i>	Immovable joints

▪ According to shape of joint

<i>Kora</i>	Finger, wrist, ankle, knee, elbow (hinge like)
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Ulukala	Shoulder, hip, teeth (ball and socket type)
Samudhga	Rectum/anus, buttocks (a box with lid/covering)
Sankhavartha	Ears, <i>Srngataka</i> - back of nose (spiral/helical type)
Mandala	Throat, heart, eyes (round/circular type)
Vayasathunda	Jaw region (like beak of crow)
Tunnasevani	Flat bones of head and pelvis (stitch/suture like)
Pratara	Vertebral coloumn, neck

Modern classification^[10]

1. Structural Classification

- Fibrous joints
- Cartilaginous joints
- Synovial joints

2. Functional Classification

- Synarthrosis - Suture, Gomphosis, Synchondrosis
- Amphiarthrosis - Syndesmosis, Symphysis
- Diarthrosis - Gliding, Hinge, Pivot, Ellipsoidal, Saddle, Ball & Socket

Sandhimoksha Vivarana

Nidana^[11]

Falling from a height, squeezing the body greatly, hitting, beating, very vigorous movements, bite by wild animals are causes for different kinds of *Bhagna*.

Lakshana^[12]

Samanya Lakshana

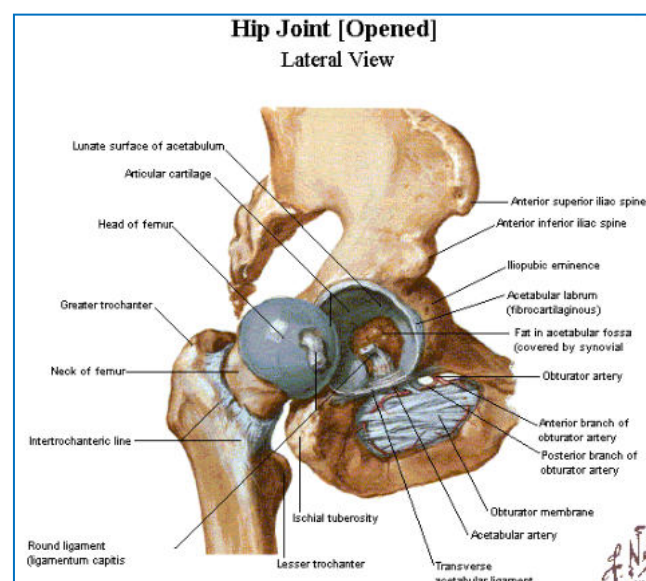
- Severe pain in all planes of movement
- Inability to tolerate touch

Vishesha Lakshana^[13]

- Utpishta:** Appearance of swelling on both sides of joint, different kind of pain appearing especially at night.

- Vislishta:** Swelling is slight, but pain is continuous (at both day and night) and improper functioning of joints.
- Vivartita:** Joint is shifted to any one side resulting in distortion of part and pain.
- Avakshipta:** Drooping down of the joint and pain.
- Atikshipta:** Both the bones forming the joints are moved apart (making a gap in between) and pain.
- Tiryak Kshipta:** Any one bone of the joint is displaced to a side and produces pain.

Dislocation of Hip^[14]



Congenital Dislocation - Can be unilateral or bilateral. Found in 1 child out of 1000 births

1. Acquired Dislocation

- Pathological dislocation - In tuberculosis or rheumatoid arthritis.
- Traumatic dislocation -
 - Anterior dislocation - hip is widely abducted and the femur externally rotated.
 - Posterior dislocation - femur head dislocates posteriorly from acetabulum.
 - Central dislocation - head of femur driven into floor of pelvis through broken Acetabulum by traumatic force.

Samanya Chikitsa**Bhagna Sthapana in Sandhi^[15]**

The dislocated joint should be placed in their normal position by;

- *Aanchana* - Traction/pulling forward
- *Pidana* - Pressing down the bone
- *Sankshepa* - flexion/contraction/bringing together
- *Bandhana* -bandaging

Kusha Bandhana^[16]

Barks of *Madhuka*, *Udumbara*, *Asvattha*, *Palasa*, *Kakubha*, *Vamsa*, *Sarja* and *Vata* should be collected for using them as *Kusa* (splint). *Kusha Bandhana* is done after reduction. It helps in alignment of fragments to normal position and helps in bringing stability of joint faster.

Alepa^[17]

Lepa (paste) prepared with powder of *Manjishta*, *Madhuka*, *Rakta Chandhana*, mixed in *Shatadhouta Ghrta* are to be used. *Lepa* is applied prior to bandaging. *Lepa* helps to reduce inflammation, improves circulation, brings union of joint and strengthens ligaments.

Bhagna Bandhana^[18]

Acharya Susruta explains when bandage should be changed according to season.

- In cold seasons - once in 7days
- Hot season- once in three days
- Temperate seasons - once in 5 day

Depending upon the condition of *Dosha Lakshanas* (symptoms) bandaging should be Moderately tight.

Too tight - leads to edema of skin, pain, suppuration

Very loose - does not bring stability of the union.

Vishesha Chikitsa^[19]

Especially for *Adhoshaka Sandhimoksha* (dislocation of lowerlimb joints)

- Patient should be made to lie in a specially designed wooden box (*Kapatashayana*)

- *Kapatashayana* is having 5 *kila* (pegs)- 2 on either side one around the heels.
- This method helps to fasten the patient tightly, without allowing movement of affected part
- Helps in steady retention of affected joint.

Samyak Sandhita Lakshana^[20]

A fracture/dislocation which is not bulged up, not having loss of body parts, not elevated and which is capable of all activities comfortably should be understood as properly united.

Pathya-Apathya specific for Sandhimoksha^[21]

Pathya (Do's)	Apathya (Don't)
<i>Shali</i> , <i>Mamsa Rasa</i>	<i>Lavana</i> , <i>Katu</i> , <i>Kshara</i> , <i>Amla Rasa</i>
<i>Ksheera</i> (milk)	<i>Mydhuna</i> (sexual activity)
<i>Ghrta</i> (ghee)	<i>Vyayama</i> (strenuous exercise)
<i>Yusha</i>	<i>Rooksha Ahara</i> (dry/non unctuous diet)
Soup of <i>Satina</i> (<i>Lentil</i>)	
<i>Brhmana Annapanam</i> (nourishing diet)	

DISCUSSION

- *Acharya Sushruta*, diagnosed various types of dislocations of the joint and proper reduction of joint by the *Lakshanas*, when there were no radiological investigatory techniques.
- Even though Hip dislocation is a rare type of dislocation, once it occurs it has severe effect on the affected limb and chances of complications is the highest.^[22]
- *Acharya Sushruta* had not directly mentioned about hip joint, it is understandable that it comes under *Ulukhala Sandhi*, which shares similar features of a ball & socket joint.
- *Acharya Sushruta* states that *Sandhi* is protected by *Sleshmadhara Kala*.^[23] similarly in

contemporary text states that joint is protected from friction by synovial membrane.

- *Acharya's* concept for *Samanya* and *Visesha Lakshana* of *Sandhi Moksha* explains various degrees of displacements which is similar to types of dislocations explained in contemporary texts.^[24]
- *Acharya* mentioned about *Vislishta Sandhimoksha* which can be considered as instability of hip joint, *Avakshipta* as anterior dislocation where it is displaced downwards, *Atikshipta* as both articulating surface of joint dislocated and displaced as in posterior dislocation of hip and *Tiryakshipta* as Subluxation.^[25]
- *Chiravimukta Sandhi* can be correlated with unreduced dislocation.
- *Acharya Sushruta* had mentioned that *Utpishta* or *Vislishta Sandhimoksha* should not be reduced, instead *Sheeta Pariseka & Pradeha* to be done for *Vedana* and *Sopha Harana*.^[26]
- Similarly, even now, ice packing is done for reduction of pain and swelling is suggested.
- Ancient methods of placing a joint back to normal position like *Anchana* (pulling forward), *Peedana* (pressing down), *Vartana* (rotating), *Sankshepa* (flexing) are similar to modern reduction and retention maneuvers.^[27]
- In ancient period reduction was made successful with help of strong attenders who held the patient tight during the procedure. This was done as the patient goes through intense pain.
- Hip spica bandaging is similar to ancient techniques of *Bandhana* (*Swasthika* and *Gophana* type).^[28]
- The concept of *Kapatashayana* is presently used as a modern method of immobilisation as in Thomas splint technique.^[29]

CONCLUSION

Various types of hip dislocation can be understood clearly with the types and *Lakshanas* of *Sandhi*

Moksha mentioned by *Acharya Sushruta*. Therefore, the major principle of the treatment remains the same as that mentioned by *Acharya Sushruta*. After reduction, for strengthening of the joint *Bahyacikitsa* such as *Seka* and *Abhyanga* can be given which is suitable for joint stability and to relieve pain and swelling, *Shamana Oushadhis* can be used. *Pathya Apathya* mentioned by *Acharya Sushruta* can be advised in order to regain the stability of joint faster.^[30] So, understanding of the concept explained by *Acharyas* is important which will be helpful for a physician for treating the condition successfully.

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