

Conceptual study of Asthibhagna in relation to Ayurvedic and Modern views

Available online at www.hjhs.co.in

REVIEW ARTICLE

Ganesh Belorkar ^{*a}, Khemraj V. Pawar ^b, Pradyumna M. Pasarkar ^c

^aAssociate Professor, Shalya Tantra Vibhag, Dr VJD Gramin Ayurved Mahavidyalaya, Patur, Maharashtra, India.

^bHOD, Professor, KriyaSharir Vidnyan Vibhag MUP'S Ayurved College Degaon, Risod, Dist. Washim, Maharashtra, India.

^cHOD & Professor, Dravyaguna Dept., Vedprakash Patil Ayurved College, Jalna, Maharashtra, India.

DOI [10.22270/hjhs.v5i4.89](https://doi.org/10.22270/hjhs.v5i4.89)

ABSTRACT

The indigenous system of medicine *Ayurveda* is not only limited to the basic prevention and management of diseases but it also has various specialized fields which can provide treatment to the serious illnesses. *Asthibhagna* is one such specialized branch which deals with the traumatic injuries of musculoskeletal system. Traumatic injuries are increasing day by day due to the rash driving, traffic load, speedy driving, etc. *Bhagna Chikitsa* has been described properly by the great scholar *Sushruta* in his classics, elaborating the classification of the injuries and their surgical and conservative treatment. *Sushruta* elaborated the basic principles of *Bhagnasthapna*, *Sthirikarna*, *Sukhcheshta prasartwam*, *Bandhanas* etc. for the management of such injuries. These principles are also mentioned as *Reduction*, *Immobilization* and *Rehabilitation* in the modern medicinal system. Orthopedics is the branch of modern medicine which deals with the management of deformities of the bones and muscles. *Asthi* (bones) are considered as the most important supportive framework of the body and therefore *Bhagna chikitsa* plays very important role in restoring the functional ability of this framework. One can trace the history of trauma management from the time of *Vedas* which is still relevant and applicable. The following article is trying to elaborate the traditional and modern views in relation to the *Bhagna*.

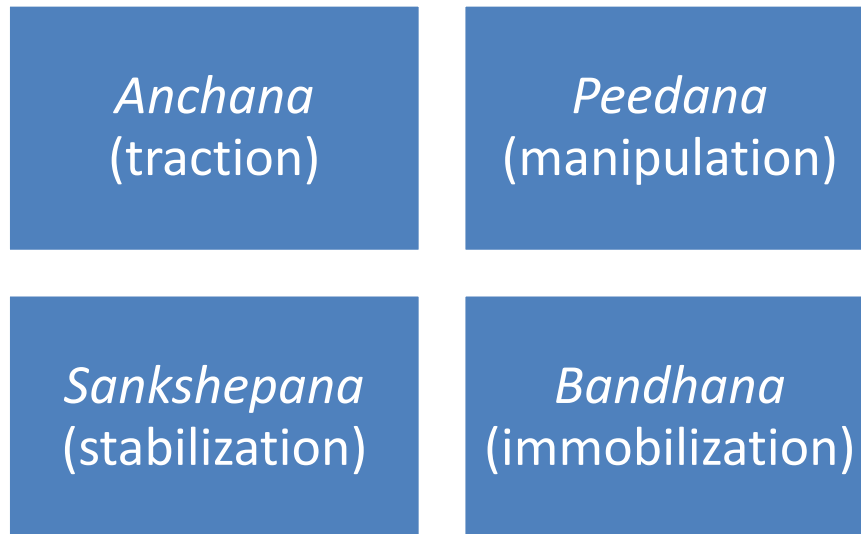
Keywords: *Ayurveda*, *Bhagna*, *Asthi*, *Chikitsa*, Reduction, Immobilization, medicine

1. Introduction

According to *Ayurveda*, five constituent parts (*Panchmahabhuta*), seven body substances (*Dhatu*) and three regulating qualities (*Doṣha*) unite together with the *Manas* and *Atma* to form a *Sharira*. *Sharira* is a combination of many micro and macro structures. One such macrostructure is musculoskeletal system which include *Mamsa* (muscles), *Sandhi* (joint), *Asthi* (bone), *Snayu* (ligament) and *Kandara* (tendon). *Asthi* and *Mamsa* provide the main supportive framework. Great scholar *Sushruta* has mentioned about the musculoskeletal injuries in the category of *Bhagna*. He has described about the *Bhagna Chikitsa* for the surgical management of the injuries. (1) *Bhagna* word can be correlated with the fracture word of the modern medicine. Fracture is the break in continuity

of the bones or restriction in their movement due to any reason. The word *Bhagna* is composed of two words i.e. *Bhanj* and *Katu* where *Bhanj* depict movement and *Katu* depicts breaking. It signifies the break or discontinuation in the movement of bones. *Chikitsa Sthana* of *Sushruta* provides the description of the various bones, their fractures, classification and management. He has provided all such information without the use of any diagnostic technology and has suggested many liable and useful ways for determining the types of fracture and their treatment. Such methods are of great help even today in the conventional medicine system. The classification of fractures was mentioned in many *Ayurveda* treaties like *Sushruta Samhita*, *Astanga Samgraha*, *Madhava Nidana Yogaratnakar*, *Harita Samhita*, etc. (2,3) All such treaties have

considered four basic principles of treatment



which are depicted in **Figure 1**.

Figure 1. Four principles of treatment

Orthopedics is a branch of modern medicine which deals with the restoration of mechanical functions of the damaged bones. Since seventeenth century many classifications were suggested such as open-closed fractures, Pott's fracture, Neer's classification etc. Nowadays, the classification given by Orthopedic Trauma Association is accepted globally which is based on the location of fracture, fracture type, bone involved, number of fractures, displacement, etc. Such fractures are identified after doing the proper investigatory procedures such as X-rays, CT scans etc. They also pay attention towards the soft tissue injury and consider them in the treatment planning. (4)

According to *Sushruta Samhita*, *Bhagna* is of two types i.e. *Kanda Bhagna* (injury to bones) and *Sandhi Bhagna* (injury to joints). *Kanda* word can be related to the long shaft of the bone and any damage to the bone is placed in the category of the *Kanda Bhagna*. *Sandhi Bhagna* is dislocation of the joints or articulating surfaces. Conventional medicine classifies fracture into open and closed fractures and in the same manner in *Madhav Nidana*, *Svrana Bhagna* and *Avrana Bhagna*, various types of *Bhagna* are mentioned in detail. (5) Likewise, scholars have also mentioned about various effects of injury on

bones such as bending, cracking, fragmenting and breaking. (6)

2. *Ayurvedic* and modern views on various aspects of *Bhagna*

Etiology is an important factor which determines the nature and severity of injury. It can be due to slipping, sudden jerk, high pressure, hitting, beating, falling from height, etc. Trauma can occur in the bony portion which is termed as the *Kanda Bhagna* and if the injury affects the joints it is termed as *Sandhi Bhagna* where *Sandhi* word indicates the junction of two bones. Sometimes, *Asandhighata* word is also used to indicate trauma to the tissues other than joints. (7)

According to the conventional medicinal system, bones get damaged due to the heavy force, which has more impact if it is applied repeatedly. Sometimes, bones get pressed due to the excessive pressure applied by the large growth of tumor etc. When there is injury to the bone, other tissues like muscles, ligaments etc. also get injured and they are also considered important during treatment planning.

Ayurveda classics have classified *Bhagna* into two types *Kanda Bhagna* and *Sandhi Bhagna*. *Kandabhagna* is of twelve types. If the bone gets projected into sides and moves it is termed as *Asthichallit*. When one portion

of the fractured bone gets impacted into the other it is called as *Majjanugata* which represent impacted fracture of modern medicine. Sometimes the fractured part of the bone is projected like a horse ear which is called as *Ashwakarna*. It is same as oblique pattern of the fracture. While doing palpation of fractured site, if one feels crepitus then it is termed as *Churnita* which is suggestive of the Comminuted fracture. *Asthi chalitam* is such injury in which one part of the bone gets lowered and other is avulsed. Such trauma is also termed as avulsion fracture. *Pichchita* can be correlated with the compression fracture where the bone gets crushed and becomes flattened. *Atipatita* is fracture in which bone divides completely and it can be correlated with the complete compound fracture. *Vakra* resembles green stick fracture in which fractures site is bent but not separated. *Chhinna* relate with the incomplete

fracture where one end of the bone is broken but the other one remains intact. When bone gets many small cracks which are associated with pain, such condition is termed as *Patita*. It can be placed in the category of the comminute fracture. *Sphutita* represent fissured fracture which is associated with pain and swelling in the fractured site.

Sandhibhagna are of six types such as *Vivartika* representing lateral displacement, *Avakshipta* which indicate dislocation of joint in the downward direction, *Vislista* is subluxation, *Utpista* is dislocation of the fractured area, *Atikshipta* is dislocation with over-riding and *Tiryakshipta* is dislocation along with lateral displacement. (8)

According to the modern views, fractures are classified into following types which are shown in the **figure 2**. (9)

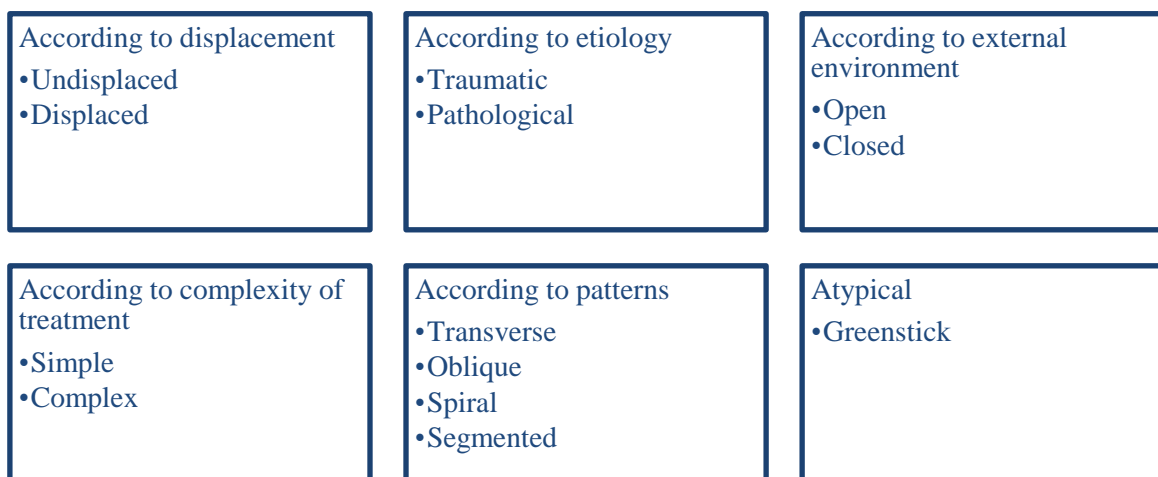


Figure 2. Classification of fractures according to modern views

There are many *Lakshanas* mentioned in *Ayurveda* classics for the *Kandabhagna* such as *Sparsha-asahatvam* (intolerance to touching), *Spandan* (continous throbbing pain), *Avapeedmaneshabdham* (sound during movement), *Shwathubahulya* (excessive swelling), twisting pain; patient does not feel relief in any of the position. If the person is suffering from dislocation then it shows sign and symptom of *Ashakti* of *Akinchan* (inability of flaxion), *Vivertan* (movement), *Ugrarujatvam* (severe pain), *Sparsha-asahatvam* (intolerance to touching), etc. (7)

There are various sign and symptoms reported by conventional medicine system which resembles *Lakshanas* mentioned in *Ayurveda* classics. Some of the sign and symptoms are pain, swelling, deformity, tenderness, crepitus, loss of movement, shortening etc. Pain can be mild to severe in nature which can be due to nerve injury, tissue injury etc. Crepitus is abnormal sensation produced by friction between two fractured fragments. Deformity and inability to use the affected part is the most common sign of the fracture. Swelling can occur due to

soft tissue damage, hemorrhage, cyst formation etc.

Bhagna chikitsa has described many ways for treating the various traumatic conditions. According to the *Chikitsa*, first we should try to adjust the fractured part and then one should apply various pastes of herbal origin. *Asthi* which has moved down, elevated or moved away should be adjusted to their original position by using principles of treatment such as *Anchana*, *Peedana*, *Sankshepana*, *Bnadhana* etc.

Fractured part should be bathed with cold water and then application of mud plaster should be done before the *Kusha*. During *Kusha bandhana* or splinting we should cover the fractured with the cloth dipped in the *Ghee*. Then we should use bark of woods like *Kadamb*, *Arjuna*, *Palasha*, *Ashwaththa*, *Sarja*, *Udumbara* as the *Kusha*. (10) Interval of bandaging varies according to the various *Ritu* such as during *Grishma Ritu* (summer) bandaging should be opened at interval of every third day and this can be seven days in the *Saumya ritu* (cold season). During the moderate timing one can open bandaging in the interval of five days. If the person is feeling pain at the traumatic site then application of *Nyagrodhadi Gana Dravyas* can be helpful. Swelling and pain can be reduced by the application of paste of riceflour, *Amlika* fruit and *Saindhava* salt. It is important to accelerate the healing and therefore *Ayurveda* has suggested using paste of Roots of *Amalki phala*, *Shigru patra*, *Vardhamana* and *Kembuka* mixed in buttermilk.

Ayurveda has mentioned about *Asthipoorna* procedure which is helpful in the case of compound or multiple fractures. We can use *Sudhavarga dravyas* for filling the missing space in such fractures. It is suggested to use paste of *Manjistha* (*Rubia cordifolia*), *Sudhavarga dravya*, and latex of the Banyan tree for the graft material. *Chakrayoga* can be used for the fracture of shaft of long bones. (11) Sometimes it is necessary to prevent the movement of the fractured part and therefore we need to

immobilize the area therefore we can use the *Kapatashayana Vidhi* (fracture bed) for such patients. To treat the condition of wound associated with the fracture, one can apply the *Ghrit* and Honey on the wound after proper cleaning and shaping of the wound. Then we should use powder of *Phalini*, *Katphala*, *Samanga* and *Lodhra* over the wound area to accelerate the healing. (11)

According to the modern medicine, treatment of fracture can be divided into three phases. During the first phase, movement of part is prevented by splinting, ice therapy, compression and elevation. (9) This helps in reducing the movement of the fractured part, swelling and pain. Second phase starts with the reduction, immobilization and third phase emphasizes on the rehabilitation of fractured part through various exercises.

3. Conclusion

It is important to note that there exist many similarities between *Ayurveda* and conventional medicine system in relation to the condition of fracture. *Ayurveda* has mentioned various aspects related to the *Bhagna* before centuries ago without using any technology and they are still applicable, logical and helpful. Modern medicine use radiographical examinations to detect fractures. *Sushruta* has placed traumatic injuries of musculoskeletal origin in the condition of *Bhagna*. When it comes to the etiological aspect, both *Ayurveda* and modern medicine has considered trauma and accidents as the main reason behind the fractures. *Ayurveda* scholars have classified *Bhagna* on the basis of injury to bones or to the joints and they are again subdivided. Unlikely modern medicine has classified fractures on the basis of complexity, structural change caused in the bone, pattern of fracture, etiology etc. During the earlier times, *Lakshanas* played very important role in determining the type of *Bhagna* and they were the basic things to consider before planning the treatment. But nowadays, it is very easy to detect and find the type and severity of fracture by doing the diagnostic procedures such as X-rays, CT scans etc.

Treatment planning is almost same in both the medicinal systems. They mainly emphasized on reduction, immobilization and rehabilitation. *Ayurveda* even provide you a list of various herbs whose combination can be used to reduce the swelling, pain and to fasten the healing. Thus we can conclude that, traditional medicinal system has provided us very effective management for the various specific conditions and it is still effective, rational and useful.

Acknowledgements

I would like to express my gratitude to Himalayan Journal of Health Sciences who gave me the opportunity to publish the article.

Financial Disclosure statement: The author received no specific funding for this work.

Conflict of Interest

The author declares that there is no conflict of interest regarding the publication of this article.

References

1. Acharya Priya Vrat Sharma. *Ayurveda Ka Vigyanika Itihasa*. Chapter 2, 7th ed. Varanasi: Chowkhambha Orientalia; 2003. p. 87.
2. Acharya Priya Vrat Sharma. *Ayurveda Ka Vigyanika Itihasa*. Chapter 4, 7th ed. Varanasi: Chowkhambha Orientalia; 2003. p. 262.
3. Shri Sudarshan Shastri. *Vidyotini Hindi commentary, Madhav Nidanam, Uttra-ardha* Chapter 44/1, Reprint ed. Varanasi: Chaukhambha Sanskrit Sansthan; 2004. p. 115.
4. Douglas R. Dirschl and Lisa K. Cannada, Rockwood and Green's *Fractures in Adults*. Section I, Chapter 2, Vol.-I, 7th ed. Philadelphia. USA: Lippincott Williams & Wilkins; 2010. p. 40.
5. Acharya Priya Vrat Sharma. *Ayurveda Ka Vigyanika Itihasa*. Chapter 4, 7th ed. Varanasi: Chowkhambha Orientalia; 2003.
6. *Sushruta: Sushruta Samhita: with commentaries Nibandhasamgraha by Dalhana and Nyayacandrika by Gayadasa*: Chaukhamba Orientalia. Varanasi: 5th Ed. (reprint 1992), Nidana Sthana chapter 16/17.
7. *Sushruta Samhita Nidana-sthan-15* (Kaviraja Ambikadutta Shastri). Varanasi: Chaukhamba publication; 2016.
8. Acharya Priya Vrat Sharma. English translation of text and Dalhana's commentary along with critical notes, *Sushruta Samhita, Nidana Sthana, Chapter 15/10, Vol.-II*, Reprint ed. Varanasi: Choukhambha Visvabharati; 2013.
9. *Essential orthopaedics clinical methods* (Maheshwari and Mhaskar) 5th edition. New Delhi: Jaypee publication; 2015.
10. *Susruta Samhita Cikitsa-sthana-3* (Kaviraja Ambikadutta Shastri) Varanasi: Chaukhamba publication; 2016.
11. Dr. Hemant D. Toshikhane et all / *The Pacific Journal of Science and Technology*, May 2009.p. 343.