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Review Article

Ayurveda Perspectives on *Bhagna* and its Management through *Shalyatantra*: A Review

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Abstract

The fracture is condition associated with injury of bones and joints, in Ayurveda it is termed as "*Bhagna*". The condition characterizes as break in movements/continuity of bones. There are two types of *Bhagna* i.e.; *Sandhimukta* and *Kandabhagna*, *Sandhimukta* can be correlated with dislocation while *Kandabhagna* means bony fracture. The *Bhagna* may occurs due to the nature of injury like physical trauma, accidents, slip, pressure bearing, excessive movements and bites of animals having hard teeth, etc. The *Bhagna* mainly occurs at two places *Sandhi* (joints) and *Asandhi* (other places except joints). Broadly Ayurveda described twelve types of fractures including *Karaktaka*, *Ashvakarna*, *Churnita*, *Pichhita*, *Asthichhallita*, *Kandabhagna*, *Majjanugata*, *Atipaaitita*, *Vakra*, *Chinna*, *Paaitita* and *Sphutita*. Ayurveda described many approaches for treating *Bhagna* such as; *Lepana*, *Bandhana*, *Parisechana*, *Pradeha* and *Sandhi/Bhagna Sthaapana*, etc. Present article summarizes various aspects of *Bhagna* and its Ayurveda management.

Keywords: *Ayurveda*, *Bhagna*, *Fracture*, *Sandhi*, *Bandhana*

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1. Introduction

The injury to body leads many problematic conditions and bony fracture is one of them. Ayurveda described fracture as *Bhagna* which may occurs due to the slipping, high pressure, sudden jerk, falling from height and other types of physical injury or trauma, etc. The injury to the bony portion leads *Kanda Bhagna* while injury to the joints termed as *Sandhi Bhagna*. The term *Asandhighata* also used for denoting injury to the tissues other than joints. The *Bhagna* not only affects bones but also affects muscles, ligaments and joints, etc. (1-4)

As mentioned above *Kanda* and *Sandhi Bhagna* are two major types of *Bhagna* and Ayurveda described twelve types of *Kandabhagna*. Some of *Kandabhagna* described here as follows:

- The fractured bones affect other part also then it is called as *Majjanugata*.
- The *Ashwakarna* is type of *Kandabhagna* in which fractured part of the bone is projected like a horse ear.

- The comminuted fracture which gives crepitus feels termed as *Churnita*
- *Asthi chalitam* is injury in which one part of bone gets avulsed and other part gets lowered.
- The compression fracture can be termed as *Pichhita* in which bones gets crushed.
- The complete compound fracture in which bone divides completely termed as *Atipaaitita*
- *Vakra* is type of fracture in which fractures site get bent.
- *Chhinna* is fracture in which one end of bone is broken while other remains intact.
- The *Patita* is type of fracture in which many small cracks occurs in bone with pain.
- *Sphutita* means fissured fracture associated with pain and swelling (4-6)

Ayurveda also described six types of *Sandhibhagna* as follows:

- *Vivartika* means lateral displacement

- *Avakshipta* represents dislocation of joint towards the downward direction
- *Vislista* is subluxation injury
- *Utpista* is dislocation of fractured area
- *Atikshipta* means dislocation associated with over-riding
- *Tiryakshipta* is dislocation associated with lateral displacement.

Acharya Sharangadhara described eight varieties of *Bhagna* which are as follows:

1. *Bhagna prista*
2. *Vidarita*
3. *Vivartita*
4. *Vishlishata*
5. *Adhogata*
6. *Urdhvagata*
7. *Sandhibhagna*
8. *Tiryaka kshipata*

Lakshanas of Bhagna:

- ✓ *Sparsha-asahatvam*: Intolerance to touching
- ✓ *Spandan*: Throbbing pain
- ✓ *Avapeedmaneshabdham*: Sound while movement
- ✓ *Shwathubahulya*: Excessive swelling
- ✓ *Ashakti of Akinchan*: Inability to flexion
- ✓ *Ugrarujatvam*: Severe pain

2. Modern consideration

- **Classification of fracture on the basis of injury**
 - ✓ Fractures caused by sudden injury
 - ✓ Fatigue or stress fractures
 - ✓ Pathological fractures
- **Classification of fracture on the basis of accessibility**
 - ✓ Closed fracture or simple fracture
 - ✓ Open fracture or compound fracture

➤ **Classification of fracture on the basis of pattern**

- ✓ Transverse fracture
- ✓ Oblique fracture
- ✓ Spiral fracture
- ✓ Comminuted fracture
- ✓ Compression fracture
- ✓ Greenstick fracture
- ✓ Impacted fracture

Modern science mentioned techniques like X-ray, CT and MRI for diagnostic purpose and plaster, immobilization, medication, bandaging and physiotherapy, etc. for therapeutic purpose.

3. Bhagna chikitsa

The treatment of fracture based upon the three fundamental principles which are as follows:

- ✓ *Bhagna Sthapana*: (Reduction in severity)
- ✓ *Bhagna Sthirikara* : (Immobilization; restriction in movement)
- ✓ *Punah cheshta prasara* : (Rehabilitation)

Bhagna Sthapana can be done by placing bone on its original anatomical position using *Kavalikaa* and *Kushikaa* along with *Ghrita*. The bone should be stabilized to restrict further displacement and allow bone for reunion. The *Chikitsaa* of *Bhagna* utilizes various approaches as depicted in **Figure 1**. These approaches like *Lepana*, *Bandhana*, *Parisechan* and *Pradeha*, etc. offers symptomatic relief and allows early healing of fractured bones. (6-8)

Lepana means application of medicated ointment at the fractured site. *Lepana* can be prepared using *Manjishthaa*, *Raktachandana*, *Shatadhauta Ghrita* and *Madhuka*, etc.

Bandhana means bandaging or plaster that can be changed after some days. The plaster generally changed according to the *Doshas* involvement at the fractured site. *Bandha* should be optimum means it should not be too loose or too tight. The *Bandhana* helps to cure *Shopha*, *Ruk* and *Paaka*, etc. at the site of injury.

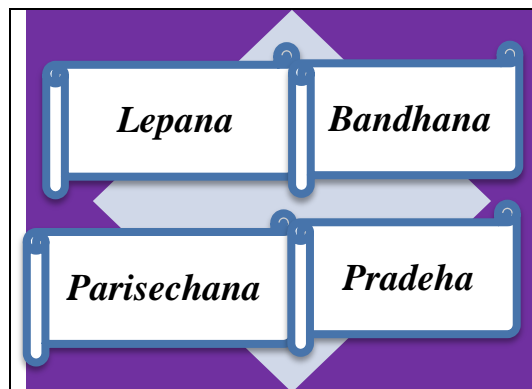


Figure 1. Common approaches for *Bhagna Chikitsa*

Parisechana means pouring the decoctions over the *Bhagna* site; *Panchamoolee Ksheera* can be used for the same. *Sukhoshna Chakrataila* along with *Vaata* pacifying drugs can also be used.

Pradeha means application of viscid ointment over the affected area. Similarly *Seka* and *Lepana* should be performed continuously using drugs possessing cold property. These all approaches help symptomatically and also improve process of healing.

4. Techniques of *Bhagna Sthaapana*:

Bhagna can be elevated if fracture is depressed (*Avanaamita*), similarly elevated *Bhagna* can be pressed down. *Atikshipta Bhagna* should be set in the opposite direction of displacement. *Adhogata Bhagna* which is lowered down should be stretched upward for rehabilitation purpose.

5. Materials used in *Bhagna Sthaapana*

In Ayurveda various materials used for treating *Bhagna*, these materials are made by fine cloth, woolen materials, cotton fibres, linseed fibres, silk cloths, *Naga* tree fibres, animal skin, inner layer of trees bark, skin of gourd and *Munja* grass rope, etc.

6. Procedural protocol of *Bhagna Chikitsa*

The basic mechanical principle involve in the treatment of fracture are *Anchana* (Traction), *Peedana* (Compression) and *Samkshepa* (Immobilization). The joint or fracture regains its normal state if reset or fixed correctly. Cold irrigation, medicinal plaster, dressings with medicated oils and bandages, etc. offers quick response to heal *Bhagna*. These approaches give rest and support, helps to correct deformity and prevent oedema.

The bandaging should be done according to the climatic condition, it is suggested to perform bandaging with three intervals in hot season, bandaging with five intervals in normal season and bandaging with seven intervals in cold season.

Panka pradeha is technique of immobilization in which mud is applied around the fracture site. It work like plaster and helps to restrict movement. Combination of white of egg, black gram powder and cloth also used for the immobilization purpose.

Rehabilitation is aimed to eliminate the physical disability up to the greatest extent and improving process of healing. Ayurveda described certain foods that can speed up healing process and helps to treat fracture, these foods are; *Mamsarasa*, *Salyanna*, *Yoosha*, *Gritha*, *Ksheera* and *Brimhana paaniya*, etc. (8-10)

7. Conclusion

Bhagna Chikitsa has been described in Ayurveda for the management of *Asthibhagna*. *Sushruta* described basic principles of *Bhagnasthapna*, *Sthirikarna* and *Bandhanas*, etc. for the management of traumatic injuries. Reduction, Immobilization and Rehabilitation are main therapeutic principle of fracture treatment which also described in modern science. *Bhagna chikitsa* helps to restore functional ability and reduces traumatic disability.

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Conflict of Interest

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

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