

# Integrative Outlook for Bahihiprakoshthi Asthibhaghna W. S. R. to Smith's Fracture: A Case Study

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## ABSTRACT

*Ayurveda* is not only a system of medicine in the conventional sense of curing disease. It is also a way of life that teaches us how to maintain and protect mental and physical health and achieve longevity. Prevention is better than cure it is the main aim of *Ayurveda*. *Ayurveda* has many unique and important concepts are mentioned. In which the basic eight branches, that is, *Ashtanga Ayurveda* which includes *Shalya Tantra* which includes *Yantra*, *Shastra* all details regarding *Shalya Chikitsa*, nowadays, which is related with the Surgery in modern science. There are various unique concepts are described in the *Shalya Chikitsa* of *Ayurveda*. In which *Bhagna* or *Asthibhaghna* is one of the concept. It's *Nidana*, *Chikitsa* its prevention all are well explained in the *Ayurveda* science. *Asthibhaghna* is correlated with the Fracture in the modern science. This article emphasize case study of *Asthibhaghna*, treated with *Ayurvedic* principles in particular *Shodhan Chikitsa*, the therapy which expels out pathological *Doshas* from the body. *Shodhan Chikitsa* helps in eliminate the disease from its root level, that avoid its recurrence in future. Here is a case study of 52 year adult male patient visited in OPD of *Shalya tantra* presenting with complaints of *Vam Hasta Shoola* [Left hand pain]. *Vam Hasta Alpa Shotha* [Left hand mild swelling] and *Sparshaasahatva* [Local tenderness] since from 3 to 5 days. The patient was admitted and managed by *Shodhana* (Purification) along with *Shamana* (Pacification) *Chikitsa*. *Kushabandha* (Splint) was administered for immobilization for a duration of 60 days. *Shital Kashaya aushadhis* and *Chakra Taila* mainly for *Parisheka* (Irrigation). The results with marbles have been exquisite in this article.

**Keywords:** *Asthibhaghna*, *Ayurveda*, *Chakra Taila*, Fracture, *Gandha Taila*, *Kushabandha*, *Shodhan Chikitsa*

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## INTRODUCTION<sup>[5]</sup>

*Ayurveda* cuddle the whole you and acknowledge the connection between your mind, body and soul. In *Ayurveda* the main aim is to maintain health of a healthy person and to cure a sick person and another is to get rid of diseased condition, that is, to cure a sick person and to prevent diseases, to keep a healthy person in healthy condition.<sup>[1]</sup> *Shalya tantra* is one of the important among the *Ashtanga Ayurveda*.<sup>[2]</sup> In *Shalya Chikitsa*, there are various concepts explained by *Ayurveda* which are unique in which *Asthibhaghna* (Fracture) is one of them. The word "*Asthibhaghna*" (Fracture) is comprised two words; *Bhanj* and *Katu*. According to *Madhukosha*.<sup>[4,7]</sup>

Asthivishleshoatra Bhagnoabhapiresha sa cha Kandabhagne sannidhimukte chastaiti na dosha (Madhukosha)

Which signifies the break or discontinuation of the bone. *Acharya Sushruta* mentioned the description about various bones, fractures, classification and its management in *Chikitsa sthana* and in *Nidana sthana*. The classification of *Bhagna* was mentioned in *Sushruta Samhita*, *Ashtanga Sangraha*, *Madhava Nidana*, *Yogaratanakara* and *Harita Samhita*. *Asthi Dhatu* is one of the important part of the body. In *Ayurveda*, mentioned that there is *Ashrayashrayi* relation between *Vata dosha* and *Asthi Dhatu*.<sup>[3]</sup> The branch deals with the deformities related with the bone is known as "Orthopedics." Management of the trauma in *Ayurveda* is termed as "*Bhagna Chikitsa*." *Asthibhaghna* can be correlated with fracture of the bones. A fracture may be defined as a complete break in the continuity of a bone or it may be an incomplete break or a crack.<sup>[4]</sup> A dislocation of joint is occurs when its articular surfaces whole displaced one from another joint.

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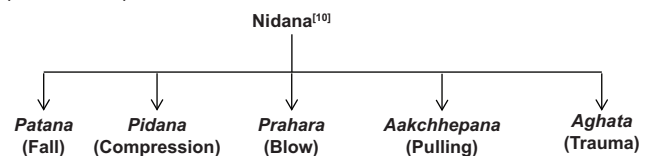
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## *Nidana*<sup>[10]</sup> (Etiology)

Patana peedana Prahara Kshepana vyaala mriga asana prabhritibhih abhigaata viseshai raneka vidha bhagna mupadisanti (Su.Ni 15/3)



This is a fracture of distal radius and distal fragments displaced ventrally and tilts ventrally. This uncommon fracture is seen above 52 years of age. Smith's fracture (reverse colles)<sup>[4]</sup> also known as "Goyrand fractures" in the French literature. Patients have complaints such as pain, swelling, and tenderness in left wrist joint. On the examination, tenderness and irregularity of the

lower end of radius are found. Diagnosis is confirmed on X-ray, there is a fracture (garden spade deformity) through the distal radial metaphysis; a lateral view shows that the distal fragment is displaced tilted anteriorly-opposite of colle's fracture. According to modern modalities of science this fracture is reduced by traction, supination and extension of the wrist, and forearm is immobilized in a cast/splint in extended position and physical therapy for 8 weeks. This fractures narration for <3% of all fractures of the radius and ulna and have a long-normal distribution: young males (most common) and elderly females. Pain in hand is very severe, hampers the daily routine of an individual. Surgical treatment in modern medical science, patients have no choice other than depending on surgical intervention or analgesic which has temporary action. Thus there is need finding a safe and interdisciplinary treatment in this fracture and here *Ayurveda* plays a major role in its line of treatment.<sup>[10]</sup> *Kushabandhana* (Splint), *Aalepa* (Paste), *Parisheka* (Irrigation). *Avagaha* are few of the treatment modalities described in *Ayurveda* scriptures and here follows the same.<sup>[10]</sup> Patient was treated locally as well as orally with *Ayurvedic* medications, that is; *Shamana Chikitsa*<sup>[10]</sup> (Pacification) and *Panchakarma* procedures, that is; *Shodhana Chikitsa*<sup>[10]</sup> (Purification) and asked to follow *Pathya-apathya* regimen. Patient got excellent results after taking treatment for 60 days.

### Aim and Objectives

The objectives are as follows:

- To assess the effect of *Ayurvedic* treatment in, *Manibandha Sandhithitha bhagna, that is, Bahihiprokoshthika asthi* (Smith's fracture).<sup>[4]</sup>

### MATERIALS AND METHODS

- Study design: a single arm clinical study.
- Informed consent was taken from patient in his language before treatment.
- For the present study a 52-years-old male patient having symptoms of *Manibandha Sandhithitha bhagna (Bahihiprokoshthika asthi)* since 3–5 days discussed in detail manner.
- Assessment criteria: Subjective parameters were assessed according to the gradation of signs and symptoms and objective parameters were assessed based on VAS Score.
- Patient was treated with Oral medications and *Panchkarma* therapy.

### CASE REPORT

A 52-year-old male patient visited in OPD of Shalya Tantra, Dr. D. Y. Patil College of Ayurved Hospital, Pimpri, Pune on February 10, 2022, with the following complaints:

#### Chief Complaints<sup>[6]</sup>

Presenting with complaints of *Vam Hasta Shoola* [Left hand pain], *Vam Hasta Alpa Shotha* [Left hand mild swelling] and *Sparshaasahatva* [Local tenderness] since from 3 to 5 days, unable to lift heavy things. He also faces difficulty in doing even the basic activities such as bathing, weight lifting, and catching since last 4 days.

### Occupation

Worker.

### History

K/C/O Hypothyroidism since 2019. On regular medication Tablet Thyrox 50 mcg, 1 OD.

No History of DM/HTN/CAD/Any other major illness.

### Past History

History of - Trauma.

### Surgical History

No H/O - Any surgery.

### Family History

Nil.

### Personal History

- Appetite - Normal
- Addiction - Mishri
- Bowel Habit - Normal once/day
- Urine - Normal color with adequate amount
- Sleep - Disturbed due to pain
- Diet - Mixed

### Ashtavidha Pariksha<sup>[2]</sup>

- Nadi* = 74/min
- Mala* = *Samyaka*
- Mutra* = *Samyaka*
- Jivha* = *Sama*
- Shabda* = *Prakruta*
- Sparsha* = *Anushna*
- Druka* = *Prakruta*
- Akruti* = *Madhyam*

### General Examination

- PR - 74/min
- RS - AE BE Clear
- CNS - Conscious, Oriented
- BP - 110/70 mm of Hg
- CVS - S<sub>1</sub> S<sub>2</sub> N
- P/A - Soft, No Tenderness

### Diagnosis<sup>[6]</sup>

Diagnosis is made on the basis of clinical symptoms of *Bhagna* as per *Ayurveda* (*Shwvayathu, Vedana, Sparshaasahatva*) and symptoms of Fracture as per Modern science, it is Smith's fracture. AP and lateral X-ray views of the left wrist joint can diagnose this fracture. This X-ray show the presence of a distal radial fracture with volar angulation, the fracture location (extra, juxtra, or intra-articular), the degree of angulation, and displacement.

### A-P Lateral View of X-ray of Left Hand



### Management: Principles of Management<sup>[6,10]</sup>

There are four basic principles which *Sushrutas* has mentioned while treating a case of skeletal injury. They are:

- *Anchana* (Traction)
- *Pidana* (Manipulation by local pressure)
- *Samksepa* (Apposition and stabilization)
- *Bandhana* (Immobilization)

### Manibandha Sandhithitha Bhagna, that is: Bahihiprokoshthika Asthi (Smith's fracture)<sup>[4,6,9,10]</sup>

Kaurparantu tadhaa sandhim angustenanu maarjayet Anumrujya tatassandhim peedayet koorparat chyutam Prasaaryaa kunchaye tchainam sneha sekam cha daapayet "

(Su.Chi 3/32,33)

- Traction and counter-traction by pressing the displaced fragment with the thumb by exerting simultaneous pressure both on the fractured bones and traction till the fracture is set right.<sup>[7,9]</sup>
- Then the surgeon must perform light massage with *chakrataila* and apply a splint or cast made up of *vastra patta*. This is known as *kusha bandhana*.
- After assessing that the fracture union has properly taken place, the patient must be encouraged to do *prasaarana* (extension) and *aakunchana* (Flexion) to avoid contracture.<sup>[7]</sup>
- To hasten the healing process the patient must be given *sneha seka*, that is, *taila dhaara chikitsa*.<sup>[9]</sup>

### Chakrataila Parisheka<sup>[5]</sup>

*Parisheka* means continues sprinkling of medicine in liquid form; in the form of *Chakarataila*, etc over the affected part of body. This *Parisheka* helps to reduce pain, *Vata shamanna* due to *Kashya guna* of medicine it suppress the vitiated *vata* and reduces the tenderness.



### Manjishthadi Lep<sup>[7]</sup>

It contains *Manjishtha*, *Yashtimadhu*, *Shali pishti*, *Raktachandan*, *Shatadhauta Ghrita*. It helps to reduce local pain, Swelling and also the drugs of *Manjishthadi lepa* help for bone healing.

### Post Pic of Manjishthadi Lepa in Left Hand



### Abha Guggula<sup>[8]</sup>

It contains *Abha* (*Babbula twak*), *Triphala*, *Trikatu*, *Guggulu*, etc., this all drugs are helps in fracture healing. Dose 250 mg of each tablet is given for 3 times a day with *Koshnajala*. It is very effective medicine for *Asthibhagna* and it has no adverse effects.

### Cap. Gandha tailam<sup>[9,10]</sup>

It is one of the best drugs for the management of *Asthibhagna Chikitsa*. It helps in improving Strength of the bone, muscles, joints, ligaments, bone mass, and its density. It contains *Kakolyadi gana* drugs, *Eladi gana* drugs, *Jivanti*, etc., drugs. It is given in dose of 2 capsules 2 times a day before meal with *Koshna Jala*.

### OBSERVATIONS AND RESULTS<sup>[9]</sup>

Patient had remarkable relief in the signs and symptoms after *Shaman* and *Shodhana chikita*. Based on the subjective and objective criteria, patient has been assessed before and after the treatment. Patient can able to rotate (internal and external) wrist joint, and perform his daily works. *Ayurvedic* treatment is fruitful in *Manibandha Sandhithitha bhagna*, that is: *Bahihiprokoshthika asthi* (Smith's fracture).<sup>[4]</sup>

### Gradation of Symptoms

- 1-3 = Mild;
- 4-6 = Moderate;
- 7-10 = Severe

**After Treatment AP Lateral View of Left Arm**



**DISCUSSION AND PROBABLE MODE OF ACTION OF DRUGS**

In this case study, observation has been done before and after treatment based on signs symptoms.

**Chakrataila Parisheka<sup>[7,8]</sup>**

It is mentioned by Acharya Sushruta in Bhagna Chikitsa adhyaya. Sukhoshsna Parisheka of Chakrataila helps to reduce Shoola, dosha shamana and promotes bone healing.

**Manjishthadi Lepa<sup>[8]</sup>**

It contains drugs such as Manjishtha, Raktachanadana, Yashtimadhu, and Shatadhauta Ghrita which helps in healing of fracture of bone. These medicines have kashaya guna, Raktashodhahara and presence of bioactive constituents such as purpurine, manjistine, xanthopurine, and glycosides such as rubiadine, carboxy anthraquinone, alizarine, mollugine enriched these phytochemical components antipyretic, spleno-protective, antimicrobial, and anti-inflammatory. Also helps to reduce Shoola, Shotha of affected part of body.

**Abhadi Guggulu<sup>[8]</sup>**

It contains Babbula twaka, Triphala, and Trikatu with Guggulu helps to promote bone healing. It acts as natural bone healing agent with anti-inflammatory and analgesic effect. Its anti-osteoporotic and arthritic effects can protects the bones against several diseases. It is potent anti- inflammatory herb, so it is helpful to relive pain in muscles joints, ligaments, and bones.

**Cap. Gandha Tailam<sup>[12]</sup>**

Gandha Tailam is mentioned by Acharya Sushruta which can be administered in the form of Pana, Abhyanga, Nasya. It also used for all types of Vatavyadhi. Sushruta mentioned it for the treatment of King.

**Table 1 :** Assessments of signs and symptoms<sup>[10]</sup>

S. No.	Signs and Symptoms	Gradation
1.	Vam Hasta Shoola (Left hand pain)	0–10
2.	Vam Hasta Alpa Shotha (Left hand mild swelling)	0–10
3.	Sparshaasahatva (Tenderness)	0–10

**Table 2:** Gradation of subjective parameters

1. Vam Hasta Shoola (Left hand pain) <sup>[6]</sup>		
A	No pain	0
B	Mild pain	1–3
C	Moderate pain	4–6
D	Severe pain	7–10
2. Vam Hasta Alpa shotha (Left hand mild swelling) <sup>[6]</sup>		
A	No Swelling	0
B	Mild Swelling	1–3
C	Moderate Swelling	4–6
D	Severe Swelling	7–10
3. Sparshaasahatva (Tenderness) <sup>[6]</sup>		
A	No Tenderness	0
B	Mild Tenderness	1–3
C	Moderate Tenderness	4–6
D	Severe Tenderness	7–10

**Table 3:** Samprapti Ghatak (Etiopathogenesis)<sup>[5,7]</sup>

Dosha	Vata
Dushya	Mamsa, Asthi, Majja
Adhithana	Manibandha
Vyakta Sthana	Manibandha
Vyakti Swabhava	Ashukari
Nidana	Abhighatajanya
Rogmarga	Madhyama

**Table 4:** Pathya-Apathya for Asthibhagna<sup>[11]</sup>

Pathya	Apathya
Madhura, laghu Aahara, Tikta Aahara, Vata anulomaka Aahara and Vihara, Cold sponging, Green leafy vegetables, Navaneeta, Draksha, Lasuna, Ghrita, Abhyanga, Nasya, Basti, Ela, Tagara, Mamsa, Mamsarasa, Ghrita, Ksheera, Mudga yusha (soup), etc.	Ati ruksha Aahara, Ati lavana Aahara, Vega dharana, Kshara sevana, Amla Aahara, Dhoopa, Ruksha ahara, Atichankramana, Ativyayama, Atijagarana, etc.

**Table 5:** Objective assessment criteria (Before and After Treatment)

The effect of treatment on Shoola, Shotha, Sparshasahatva is as follows;

Symptoms	Before treatment	After treatment
VAS Scale		
Vam Hasta Shoola (Left hand pain)	10	2
Vam Hasta Alpa Shotha (Left hand mild swelling)	7	1
Sparshaasahatva (Tenerness)	8	0

**CONCLUSION**

Bahihiprakoshthika Asthibhagna in old age itself is a difficult task to treat were Ayurveda place important role in its treatment. Ayurveda has mentioned various concepts regarding the Asthibhagna, Bhagna, its Chikitsa, Nidana, etc. There are two main types of Asthibhagna<sup>[5]</sup> has mentioned i.e. Sandhimukta and Kandabhagna. Acharya Sushruta<sup>[7]</sup> has placed the traumatic

injuries of musculoskeletal in the form of *Bhagna*. The *Lakshanas* in *Ayurveda* and also in contemporary science is important for the diagnosing *Bhagna*. The main important line of the management of *Asthibhagna* is Reduction, Immobilization and Rehabilitation.<sup>[6]</sup> Thus concluded that concept of *Asthibhagna* is important and through *Ayurveda* which has various line of treatment can achieved very effective results in this like *Manibandha sandhishthitha bhagna*, that is: *Bahihiprokoshthika asthi* (Smith's Fracture).<sup>[4]</sup>

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