



## AYURVEDIC MANAGEMENT OF COLLE'S FRACTURE A CASE STUDY

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Article Received on 12/03/2022

Article Revised on 02/04/2023

Article Accepted on 23/04/2023

### ABSTRACT

Bhagna it is an epitome were bone or bones get interrupted. This is classified on the basis of its clinical importance in to Avrana (Simple fracture) and Savrana (Compound fracture). Acharya Sushruta has mentioned 12 types khanda bhagna. Acharya has advocated the principles of reducing the fracture. They are Anchana (Traction), Peedana (Manipulation), Sankeshpana (Opposition), and Bandhana (Immobilization) which is practiced regularly even today. In this present study, traditional method of Bhagna management has been adopted for the better result.

**KEYWORDS:** Bhagna, Colle's fracture, Manjistadi lepa.

### INTRODUCTION

Bhagna it is an epitome were bone or bones get interrupted. The word Bhagna is derived from the root word Bhanj which means to break. Acharya Sushruta was the first person to explain different types of fractures along with its treatment. Acharya Sushruta has explained causative factors in two references among which we can infer as Traumatic as well as Pathological fracture.

The causative factors for the traumatic factors are Pathana (Fall), Peedana (Squeeze or rotating the hand), Prahara (hitting), Akshepa (sudden contracture), Vyala Mruga dashana (bite from animals), Abhighata (Injury), Anekavidha asthnam (other different types of injury to bones)<sup>[1]</sup>,

Where as the causative factors for pathological fracture are Alpaashina (intake of less food), Anaatmavatho (not taking wholesome food), Janthor vatatmakasya (Vata prakruti person along with brittle bones), Upadrava (due to complication of other conditions), Lavana, Katu, Kshara sevana (intake of excess of salt, sour, alkali kind of food), Maithuna (indulging in excess of sexual intercourse), Avyayama (not doing exercise), Anatapam (not exposing to sunlight), Rookshanna (intake of dry foods).<sup>[2]</sup>

Acharya Sushruta has mentioned 12 types of fractures<sup>[3]</sup> they are Karkatakam, Ashwakarnam, Choormitam, pichitam, Asti challitam, Khandabhagnam, Majjanugatam, Atipatitam, Vakram, Chinnam, Patitam, Sputitam. Among these 12 different types Ashwakarna, Choormitam, Asthichallitam, Khandabhagnam are more common.

According to modern science there are 3 types of fracture based on the causative factor they are Traumatic, Pathological, Stress fracture. Based on the fracture line they are Transverse, Oblique, Spiral, Compression. Grossly they are divided into three types they are Simple, Compound and Communitied. Colle's fracture is named after Abraham Colle's, an Irish surgeon, who first described this condition. Colle's fracture is the fracture of distil end of radius 2cm above the radio carpal joint near the wrist. It happens when a person slips and puts out an out stretched hand during fall. Incidences are more in an older person whose bones are weakened and brittle mostly in menopausal women with osteoporosis. The symptoms may include sudden pain, bruising, swelling, disfigurement of the wrist (dinner fork deformity).

### CASE REPORT

A male patient aged about 49 years of age came to SKAMCH and RC with a complaint of pain and swelling

in the left wrist. He gave the history that he met with an accident while travelling in two-wheeler. While falling he gave his left hand for support but while getting up he couldn't move his left wrist and he experienced severe pain along with swelling and disfigurement of the left wrist. He was taken to nearby clinic there he was advised to take X Ray. Then after taking X ray he was diagnosed as fracture, so he came to SKAMC.

His systemic examinations were not significant for any major systemic disease. He had no H/O DM, HTN, Thyroid disorder.

His vitals were stable with BP - 130/80mmhg, respiratory rate - 21/min, pulse rate - 80 bpm, temperature - 98.6°F.

#### FAMILY HISTORY

Not significant to present condition

#### PERSONAL HISTORY

- Appetite: Good
- Diet: Vegetarian
- Sleep: Disturbed,
- Bowel: Regular
- Micturition: 5 – 6 times per day
- Habits: Tea 3-4 times/day

#### GENERAL PHYSICAL EXAMINATION

- Built and nourishment: Moderate
- Pulse: 80 bpm
- B. P: 130/80 mm of Hg
- Temperature: 98.6 °F
- Respiratory rate: 21/ min
- Height: 172 cm
- Weight: 76 kg
- Pallor: Absent
- Icterus: Absent
- Cyanosis: Absent
- Clubbing: Absent
- Edema: Absent
- Lymphadenopathy: Absent

#### INVESTIGATION



#### SYSTEMIC EXAMINATION

- Central nervous system: Higher mental functions, Sensory, Motor, reflexes and Coordination intact.
- Cardiovascular system: S1 S2 heard, no added sounds.
- Respiratory system: Normal vesicular breathing sound heard, no added sounds.
- Per abdomen: Soft, non-tender

#### BHAGNA LAKSHANA<sup>[4]</sup>

- Swayatubahulyam
- Spandhana
- Vivarthana
- Sparsha asahisnutva
- Avapeedyamane shabdha
- Vividha vedana pradhurbava
- Sarva avasthasu na shrama labha

#### LOCAL EXAMINATION

##### Inspection

- Abnormal swelling and deformity – Present (Dinner fork deformity)
- Attitude – There is radial deviation which makes head of ulna more prominent
- Shortening – Present compared to other hand
- Overlying skin – Simple fracture

##### Palpation

- Tenderness – Present
- Bony irregularity – Present
- Crepitus – Present
- Swelling – Present
- Wound – Absent

##### Movements

- Restriction present

#### VASCULARITY EXAMINATION

Radial pulse – Normal

Ulnar pulse – Normal

Brachial pulse – Normal



X Ray of left wrist – AP and Lateral (fig 1) before reduction (fig 2) after reduction

**TREATMENT**

According to ayurveda Acharya Sushruta has mentioned treatment protocol which states like

➤ आञ्छनैः पीडनैश्चैव सङ्क्षेपैर्बन्धनैस्तथा ॥१८॥

सन्धीञ्छरीरे सर्वास्तु चलानप्यचलानपि ।

एतैस्तु स्थापनोपायैः स्थापयेन्मतिमान् भिषक् ॥१९॥

Which means using 4 methods they are Anchana, Peedana, Sankshepana and Bandhana i.e. using traction, counter traction, manipulation (reduction), and immobilization are the prime treatment for fracture which should be done by the wise physician.<sup>[5]</sup>

**Intervention**

- When patient came to our hospital Reduction of the fracture was performed by the above said principle,
- Then application of Manjistadi lepa over the fracture is applied followed by Bhagna bandhana was performed using bamboo splints
- This Bandhana was changed once in 7 days i.e Old lepa is removed followed by cleaning the site with antiseptic solution and sterile gauze, then freshly prepared lepa is applied in sterile condition followed by application of Bhagna bandhana
- This procedure was carried out for 5 times
- Then patient was advised to start mild movements of pressing sponge ball, slight flexor and extensor movements for 2 weeks

- Orally medications like
- Tab Lakshadi Guggulu 2 TID (A/F)
- Cap Bonton 1 BD (A/F)
- Gandha taila 10 Drops BD (B/F) with milk was advised in the course of treatment

**RESULTS**

In this case there was a good result by following the principles as mentioned in our classics. When the patient first visited our hospital (fig. 1) there was medial deviation of the wrist which was more evident, and there were restricted movements. After performing the reduction and applying manjistadi lepa followed by Bhagna bandhana patient felt relief of pain. Then again in the second sitting there was considerable change in the medial deviation of the wrist (fig. 2), there was reduction in swelling. In the third sitting there was further more reduction in swelling as well as the pain (fig. 3) which patient used to feel. While in the last week there was no swelling in the wrist region (fig. 4), patient was able to perform minimal wrist movements, with pain. He was advised to perform active finger movements during the course of treatment and was also advised not to put pressure over the wrist and not to lift weight for 5 months. There was a significant result after the course of treatment when the patient came for follow up after 5 months, (fig. 5) had regained complete range of movements.



**Fig. 1: When Pt Visited Our Hospital**



**Fig. 2: After First Week**



**Fig. 3: After Second Week**



**Fig. 4: After Last Week**



**Fig 5 at follow up after 5 months**

## DISCUSSION

Acharya Sushruta an ancient surgeon has dedicated 2 chapters in explaining the causes i.e. Traumatic and Pathological as well the treatment of fracture and dislocation. He was very much well-versed in explaining the all types of fracture at time where radiological investigations were not at all available. He has clearly mentioned the types like transverse, spiral, oblique, avulsion greenstick, compression etc type of fracture. He has even mentioned simple as well as compound type of fracture.

Acharya Sushruta has scientifically explained the treatment protocol for fracture management, the same principles is followed even today. The concept of splint which helps to restrict and provide rest to the affected limb is in practice even today<sup>6</sup>. The concept of Lepa, Seka etc. is having scientific value compared to only immobilization of the fracture which has been proved in many of the research works. He has mentioned different formulations like Laksha Ksheera paka<sup>7</sup>, Gandha taila<sup>8</sup> etc. which contains high calcium content as well as helps in calcium absorption to the bones to have good as well as strong bones.

The concept of physiotherapy been explained 2000 years back which explains the restoration of movements after fracture of Manibandha pradesha by using Mruth, Lavana and Pashana pinda<sup>9</sup> that is Mud ball, Salt ball and Stone ball in progressing stage to restore normal strength for the affected limb, as there will be muscle weakness due to prolong immobilization.

## CONCLUSION

This case study shows that there is an effective management in the treatment of fracture through ayurvedic means. This single case study shows that, by following the step wise protocol explained in our classics helps in attaining the maximum recovery, with complete range of movements. Further, it is need of the hour to treat more cases of fracture by adopting the similar treatment protocol for its scientific recognition.

Manjistadi lepa which is explained in Bhagna chikitsa is effective in the management of traumatic injury as well as fracture. The mode of action of this lepa is Sotha hara, Vedana sthapana, Bhagna sandhna kara which is clearly evident in this study The drugs of Manjistadi Lepa are easily available, cost effective and can be practiced in OPD level.

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