

Effect of combined Ayurveda and Sri Lankan Traditional treatment for management of fractures and dislocations: Case Series

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ABSTRACT:

Bone fractures and dislocations are one of the commonest injuries to the human body. Reduction, Immobilization and rehabilitation are the basic principles of fracture management. Three cases including elbow dislocation along with horizontal hairline fractures of the Ulna and Radius, fracture of the clavicle and posterior fracture of the calcaneum of the left foot was presented to Thenna *Ayurveda* Hospital, Sri Lanka and managed according to *Ayurveda* basic principles and using both internal treatments and external applications of *Ayurveda* and Sri Lankan traditional medicines. X-rays were taken before the treatment to confirm the diagnosis and after the management to confirm the bone union. In all three cases, patients achieved normal function of the affected joint/bone and free from any other complains after five months of the follow-up.

KEYWORDS: *Ayurveda*, Bone fracture, Elbow dislocation, Sri Lankan Traditional Medicine.

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INTRODUCTION:

Fractures are one of the commonest among unintentional injuries which causes physical, psychological, social, and financial loss to the patients. Among all injuries, the annual incidence of both simple and complex elbow dislocations is 6.1 per 100,000. [1]. It is the second most common dislocation after shoulder dislocation in adults. 90% of elbow dislocations are posterior dislocations [2]. The annual incidence of clavicular fractures is estimated to be between 29 and 64 per 100,000 population per year. [3]. Among all fractures, fractures to the clavicle accounts about 4 % and 44 % of all injuries to the shoulder girdle [4]. Lateral and medial fractures are more frequent in elderly

patients with most common cause of fall on an outstretched arm or by a direct blow on the shoulder [5] and non-union is more common in the lateral third [6].

The annual incidence of calcaneal fracture is 11.5 per 100,000 which occurs mostly from falling from a height [7]. The aim of the fracture management is union of the fracture without further bone or soft-tissue damage which enables early restoration of maximal function [7].

Susruta Samhita, the textbook of *Ayurveda* surgery has described about the fractures and dislocations in detail. The common Management principle of fractures is given as the traction, applying pressure, compression and bandaging along with

internal and external medicines [9] which aims to immobilize the affected joint or bone which is one of the primary needs for the healing of the bone and to promote ossification of the fractured bone. *Susruta Samhita* describes various kind of external medicines which help to reduce pain, inflammation of the affected area and promote bone healing. As *Ayurveda* has holistic approach for the management of the disease, *Susruta* has indicated various kind of internal medicines which can be selected according to the patient's condition.

Sri Lankan traditional medicine is the most popular and accepted medical system for the treatment of fractures and dislocations among Sri Lankan people. Combined treatment modalities of both *Ayurveda* and Sri Lankan traditional medicine are being used for the management of fractures and dislocations since long time in Sri Lanka with proven positive results. This paper provides data of three cases of fractures and

dislocation treated by combined treatment regimen.

CASE PRESENTATION

Case 1

A 74 years old female patient, came to Thenna *Ayurveda* Hospital-Central Province, Sri Lanka, next day after the trauma with the complaints of severe pain and swelling in right elbow with restricted movements after falling on to outstretched hand. On physical examination, hematoma (2cmx4cm) around 2 cm distal to cubital fossa was observed with swelling and tenderness around the elbow joint (Figure 2). Neurological examination and distal pulses were normal. Patient couldn't flex, extend, pronate, supinate the forearm. Imaging in the form of X Ray right elbow revealed posterior dislocated elbow and horizontal hairline fractures of the proximal ulna and radial bones (Figure 1).



Figure 1: X-Ray right elbow before treatment



Figure 2: Appearance of the hand before treatment (White arrow shows hematoma)



Figure 3: Arm sling bandage



Figure 4: after one month of the treatment



Figure 5: Appearance of the right hand after treatment

Immediate Management:

Patient was comfortably seated on a chair. She underwent closed Reduction of elbow joint after giving the counter traction on the distal humerus after applying *Neelyadee* oil (one of the oils used in Sri Lankan traditional medicine) over the elbow joint and congruity of the bones forming the elbow joint was achieved which was confirmed through X Ray.

Neelyadee oil Pichu (oil-soaked gauze) was applied over the elbow joint and area over the fractures of the proximal ulna and radius bones. Then three wooden splints were placed on medial, lateral and posterior aspects of the 90° flexed elbow and bandage was applied. (Figure 3). Oil Pichu was changed every other day for 6 days in same manner described above.

60ml of *Dashamul Kashaya*(decoction) morning and evening was given for 2weeks as internal medicine.

Management of 2nd week

Ketakeladi Paththu (Sri Lankan traditional herbal paste for fracture healing) was applied over the elbow joint. Immobilization was achieved using three wooden splints and bandaging described in *Patthu* was changed after every two days.

Management of 3rd week

Lakshadi Lepa (Ayurveda paste for fracture healing) was applied over the elbow joint and immobilized as described above. *Patthu* was changed after every two days.

**Figure 6 :X-Ray before treatment****Results**

Patient was free from swelling and she was able to perform normal elbow movements after four weeks from the initial treatment and after more than five months of follow-up, the patient still felt satisfied, no complaint of pain or swelling at the joint. (Figure 4 and 5)

Case 2

A 23 years old male patient, came to Thenna *Ayurveda* hospital Central Province, Sri Lanka with the complaints of pain in right clavicle. He felt mild pain immediate after falling on his right back and on his outstretched hand before five days. Then he ignored the pain, and after lifting a weight from his right-hand pain was increased. Then he met with an allopathic surgeon. Immobilization was done by using clavicle brace. but patient did not get relief from the symptoms.

On physical examination, there were no any opened wound, no external bleeding. There was tenderness and crepitus while applying mild pressure over the lateral one third of the collar bone. Radial pulsation was normal. There was no shortness of breath or chest pain. He was able to move all the fingers. Movements of the shoulder joints were possible with mild pain.

Standard X ray imaging of the right clavicle in antero-posterior view showed a nondisplaced fracture in lateral one third of clavicle .(Figure 6) .

**Figure 7 :X-Ray after treatment**

Immediate management

Neelyadee oil *Pichu* was applied over the clavicle area and then wooden splint was placed horizontally over the clavicle. Arm sling Bandage was applied for immobilization of the shoulder joint. bandage was changed every other day.

60ml of *Dashamul Kashaya* (decoction) morning and evening was given for 2 weeks as internal medicine.

Management of 2nd week

Ketikaladi Paththu was applied and followed same immobilization techniques described in *Patthu* was changed in every two days.

Crepitus was disappeared after 2 weeks.

Management of 3rd week

Lakshadi Lepa was applied and immobilized as described above.

Results

Patient was free from pain and he was able to perform normal works after three weeks from the date of initial treatment. After five months of follow-up, patient don't have any complaints. (Figure 7)

Case 3

69 years old a male patient, came to Thenna *Ayurveda* hospital Central Province, Sri Lanka on the next day after the trauma with the complaints of severe pain and swelling in both medial and lateral aspects of left ankle and heel with difficulties in walking after falling from approximately 12 feet high on his left foot. On physical examination skin was intact and there was no hematoma. There was tenderness and movement of the ankle joint was restricted due to pain and swelling. Imaging in the form of X Ray antero-posterior and lateral views of left ankle and foot revealed posterior fractures of the calcaneum (Figure 8)



Figure 8: X-Ray before treatment (Red arrows shows the fracture sites)



Figure 9: X-Ray after treatment

Immediate management

Neelyadee oil *Pichu* was applied on the ankle joint and patient was asked to refrained

from walking at all. Bandage was changed in every other day.

60ml of *Dashamul Kashaya* (decoction) morning and evening was given for 2 weeks as internal medicine.

Management of 2nd week

Ketakeledi Patththu was applied and followed same immobilization techniques described in *Patthu* was changed after every two days.

Management of 3rd week

Lakshadi Lepa was applied and immobilized as described above

Results

Patient was able to walk after two months of the treatment but had to use clutches due to pain. He was completely free from the pain and able to walk normally after three months. After more than five months of follow-up, the patient still felt satisfied, do not have any complaint of pain or swelling at the joint (Figure 9). In all three cases X-rays were taken after the treatment to confirm the bone re-union.

DISCUSSION:

Ayurveda treatments are mainly based on *Dosha* (body humors) hence *Ayurveda* texts are indicated different internal medicines during fracture management along with treatments for fractured/dislocated site. *Dashamul Kashaya* ^[10] is given for the patients for the purpose of balancing of body humors and according to Acharya Charaka, it has *shvayathuhara* properties ⁽¹¹⁾ *Neelyadi* oil ^[12] is one of the traditional oils which has coconut oil, *Acronychia pedunculata*, *Adenantha pavonina*, *Cascarilla aromatica*, *Monochoria vaginalis*, *Indigofera tinctoria* as the key ingredients. It helps to reduce inflammation at initial stage of the fracture and to reduce the pain. ^[12] *Ketakeledi* paste contains *Andrachne doonkyboisca*, *Syzygium cumini*, *Mimusops elengi*, *Connarus monocarpus* as the main ingredients. Both *Ketakeledi lepa* and *Lakshadi* paste has bone

healing promoting properties which enhance the formation of callus.

In initial days fractured area shows marked swelling due to inflammation. Swelling gets reduce with oil Pichu application. Hence changing the bandage in every other day without harming the alinement of bone ends helps to keep the splints tight enough with reducing size of the affected area. When applying the paste on the fractured site of the bone usually it gets dried after two days. That is the reason to change the paste on every two days.

Wooden splints (bamboo tree) are light weight but has enough strength to immobilize the affected part. The main advantage of splint over Plaster of Paris (POP) is, splint can remove at a time when there is a need and can be adjusted its tightness with reduction of the swelling. Other disadvantages of POP such as itching, burning sensation etc. can be avoid using wooden splints as the aeration for the area is maintained through the bandage.

CONCLUSION

Combined both treatment modalities, *Ayurveda* and Sri Lankan traditional medicine are being used for the management of closed simple fractures and dislocations of the joints. In this case series hair line fractures, simple oblique fractures and dislocation of the elbow joint successfully managed without any complications by using internal medicines and external applications with splints and bandaging. Patients were successfully treated merely by *Ayurveda* principals. Analgesics were never required during the course of the treatment.

Patients consent

Patient's written consent has been taken for treatment and publication of data without disclosing identity of the patient.

Limitation of Study:

This protocol may be tried in more number of cases for its scientific validation.

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