A CASE REPORT OF AN INTEGRATED APPROACH IN DISTAL RADIO-ULNAR JOINT STIFFNESS

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ABSTRACT

Wrist joint stiffness is the common ailment which we come across in our practice after cast removal. The diagnosis of the condition and providing suitable rehabilitation techniques at the earliest restores the normal status of joint. In this regard, a case of a young patient with Distal Radio-Ulnar Joint stiffness presenting with restriction of pronation and supination after cast removal was treated with an integrated approach of Ayurveda and Physiotherapy successfully and it is hereby reported here.

Key words: Distal Radio-Ulnar joint, Supination, Pronation

INTRODUCTION

The Distal Radio-Ulnar joint is a uniaxial pivot joint. Movements at the radio-ulnar joint complex pronate and supinate the hand. The chief function of the distal radio-ulnar joint is to stabilize the forearm during pronation and supination as the radius rotates on the distal end of the ulna.

The distal ulna is completely covered by cartilage and articulates with the ulnar notch of the radius except on its ulnar side. An injury to the distal radio-ulnar joint can occur in association with almost any fracture of the forearm or as an isolated injury. A dislocation of this joint may be simple or complex. Diagnosis and adopting the apt treatment modality will be the need of time.

CASE REPORT

A 24 year old male patient reported to the OPD unit of Amrita School of Ayurveda, Vallickavu, on 16th march 2015. He met with an injury 4 weeks ago and had subluxation of Wrist joint with a hairline fracture in styloid process of Ulna. Reduction was done and retention with POP cast was advised for 6 weeks by a specialist. POP cast was in situ when he consulted us. Due to unavoidable circumstances he couldn’t go back to his consultant. When the cast was removed after 6 weeks on 24th march, we could appreciate the pain & stiffness in inferior radio ulnar joint associated with slight muscle weakness.

We suggested the patient to take an opinion from an orthopaedic surgeon. Patient was very much cooperative and came back with the fair opinion confirmed that it was a case without any complications. In certain cases these symptoms are transient and they resolve when we encourage the routine activities of the limb. But in the present case symptoms were persistent even after 3 days and reported our OPD on 27th march. The judicial execution
of the treatment was inevitable, so came up with integrated approach protocol.

**Treatment Plan on 27th March:**
Pain was moderate and tolerable. Muscle weakness was slightly present. Hence, with the primary objective of the treatment plan to relieve stiffness, which was restricting pronation and supination movement, the following protocol was followed:

1. *Sallaki* tablet 400mg one tablet twice daily
2. Cap *Ksheerabala* 2 capsules twice daily
4. Physiotherapy: Hot Wax bath, Therapeutic range of motion (ROM) exercises, Trans-cutaneous electrical nerve stimulation (TENS) were physiotherapy techniques incorporated in this case.

Duration of treatment was for 15 days and patient was followed up after 7 days of completion of treatment. Treatment was completed on 10th April 2015.

**OBSERVATIONS**

Significant result was appreciated after 1 week of treatment. The patient regained with joint activities at the end of 15 days. Pain was negligible and muscle strength was restored. The pronation and supination activity were possible and returned back to his work in the follow up period.

**DISCUSSION**

The selection of conservative treatment and physiotherapy aimed at relieving primary symptoms of the patient. *Shallaki* (*Boswella serrata*) has potent analgesic; anti-inflammatory effects reduce the pain and inflammation of joints. *Ksheerabala* capsule is a drug of choice in Neuro-muscular deficits. Its *Brihma and Rasyana* properties benefitted to restore muscle strength in this patient. *Murivenna*, is the proved Ayurvedic proprietary medicine for musculo skeletal injuries. The ingredients of *Murivenna* synergistically act in relieving pain and stiffness. Lipid base enhances the cutaneous absorption of the active principles.

In practice majority of patients regain full movements of the wrist a few weeks after immobilization has been discontinued. Residual stiffness may be due either to intra-articular adhesions following a fracture, or to extra-articular adhesions following traumatic oedema with organization of the serofibrinous exudates leading to adhesions. Hot Wax bath, ROM exercises and TENS were physiotherapy techniques incorporated in this case.

Hot wax bath is a drug-free, non-invasive method of applying heat to relieve muscle stiffness and joint pain. When heat is applied, the blood vessels expand, bringing more circulation to the affected area, increasing healing nutrients and oxygen at the cellular level and removing waste products that cause inflammation and stiffness. A temporary increase in the pain threshold, a decrease in muscle spasms, and an increase in flexibility occurs. Trans-cutaneous electrical nerve stimulation (TENS) emits an electric signal believed to ease discomfort by activating the natural pain-relieving system in the body.

**CONCLUSION**

Judicial and apt treatment methods gave good benefit when adopted with therapeutic range of motion (ROM) exercises. Conservative & Rehabilitation techniques are needed after immobilization in restoring the limb activities. The proper selection of case and planning the treatment becomes key points of success. An integrated approach of Ayurveda and Physiotherapy gave an optimum result.
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