The use of the external fixation in treatment of intraarticular fractures of the fingers

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Abbreviation table

PIP joint	Proximal interphalangeal joint
MCP joint	Metacarpophalngeal joint
CMC joint	Carpometacapal joint
DIP joint	Distal interphalangeal joint
PRTS	Pin and rubber traction system
PCL	proper collateral ligament
ACL	the accessory collateral ligament
A2	Annular pulley 2
A4	Annular pulley 4
FPL	Flexor pollicis longus
K	Kirschner
ROM	Range of motion
TROM	Total range of motion
DFD	Dorsal fracture dislocation
VFD	Volar fracture dislocation
RTA	Road traffic accident
TAM	Total active range of motion

Aim of the work

The intra-articular fractures of the hand are difficult problem facing hand surgeon. The bad prognosis of these factures may be due to difficult fixation, stiffness and early osteoarthritis. In this thesis we try To find a simple ideal solution for these fractures. The dynamic external fixation was used for treatment of intraarticular fracture and then the results is evaluated in comparision to available literature.

Abstract

The intraarticular fractures of the fingers are one of the difficult problems facing hand surgeons. Many types of external fixation were used in treatment of these fractures. We developed a simple, cheap, easily applied dynamic external fixator with early range of motion. we applied this fixator for intraarticular fractures 30 cases of fingers and 30 cases for thumb with a very good results.

Key word: intraarticular fractures of the fingers and thumb, Dynamic external fixation.

Introduction

Hand injuries are one of the most common injuries of the body. They are documented to have a large economic impact not only in term of cost of treatment and disability claims but in terms of loss of days of work and permanat disability. (Patel et al 1998)

The intra-articular fractures of the hand are difficult problem facing hand surgeon. The bad prognosis of these factures may be due to difficult fixation, stiffness and early osteoarthritis.

The shape, extent, and degree of comminution of the hand joints depend on the amount, direction, and location of the causative force, the position of the joints, and the tension of the intrinsic ligaments and extrinsic muscle. (Seno et al 1997)

The intra-articular fractures which were managed in our thesis included dorsal and volar fracture dislocation of PIP joint and comminuted pilon fracture of base of the 2^{nd} phalanx and intraarticular fracture of the base of the 1^{st} metacarpal and base of the 1^{st} phalanx of the thumb.

The clinical picture of the intraarticular fractures of the hand joints varies from pain, tenderness, oedema, and deformity. Radiologically should include postero-anterior, lateral, and oblique views (Stern 1999).

Both conservative and surgical treatment aim to achieve and maintain complete reduction of the dislocation or sublaxation and restore stability, sufficient to allow early movement. (Blazer and Steinberg 2000)

The review of literature

Chapter 1

Anatomy and mechanics