

Introduction

Fractures of the hand skeleton are common (*Barton, 1984*). Conservative treatment with splinting of the fractured and adjacent bones has the problem that it is difficult to preserve joint mobility and avoid stiffness. Stable fractures allow early functional treatment after a short period of splintage, while unstable fractures need sufficient stabilization for an extended period to prevent secondary displacement and deformity (*Buck-Gramcko et al., 1986*).

Because of easy handling, K-wires have enjoyed some popularity for the stabilization of these fractures (*Edwards et al., 1982*). With the standardization of techniques of internal fixation plates were also used (*Heim & Pfeiffer, 1982*). Both methods have their advantages and disadvantages. Open reduction and internal fixation causes additional soft tissue trauma which affects the gliding layers. In fractures close to the joint stabilization is often difficult with disturbance of the tendon gliding mechanism and may affect the joint capsule and ligaments.

External fixation has the theoretical advantage of a minimally-invasive technique, but the disadvantage of an external application. A number of mini-fixators have been available in the past which were small copies of the devices used in the treatment of long bones (*Asche et al., 1979*). The unique design of the hand justifies a unilateral "low profile" fixator and adapted pin positioning for the application in peri-articular fractures without bridging and immobilizing the joint (*Penning et al., 1995*).

Aim of the work

This thesis aims to analyze the indications and results of treatment of twenty five adult cases of phalangeal and metacarpal hand fractures by the use a locally made replicate of mini-Hoffmann device of external fixation.