External Fixation versus Volar Locked Plating in Treatment of Unstable Distal Radius Fractures A systematic review

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First of all thanks to ALLAH

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Maged Elkarras

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Abbreviation	Clarification
AO	Arbeitsgemeinschaft für Osteosynthesefragen
CRPS	Complex regional pain syndrome
DASH	Disability of arm shoulder and hand
DRFs	Distal radial fractures
EF	External fixation
EPL	Extensor Pollicis Longus
FCR	Flexor carpi radialis
FPL	Flexor pollicis longus
IF	Internal fixation
LCP	Locking compression plate
ORIF	Open reduction and internal fixation
PQ	Pronator quadratus
RH	Radial height
RI	Redial inclination
ROM	Range of motion
RSC	Radioscaphocapitate
UV	Ulnar variance
VT	Volar tilt

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ABSTRACT

Background: The choice between volar locking plates (VLP) and external fixation (EF) for un- stable distal radius fractures have not reached a consensus. The systematic review of randomized controlled trials was performed to compare VLP with EF to determine the dominant strategy.

Materials and methods: systematic review was performed with a systematic search of studies conducted by using the PubMed, Embase, and Cochrane Central Register of Controlled Trials databases. The randomized controlled trials that compared VLP with EF were identified. Characteristics, functional outcomes, radiological results, and complications were manually extracted from all the selected studies.

Results: Seven studies encompassing 588 patients met the inclusion criteria. There was significant difference between two procedures in disabilities of the arm shoulder and hand scores at 12 months, grip strength at 12 months, supination at 12 months, extension at 12 months, ulnar variance at 12 months, and reoperation rate at 12 months, postoperatively. However, there was no significant difference between flexion, pronation, radial deviation, and ulnar deviation at all follow-up points postoperatively and overall complications at 12 mo, postoperatively.

Conclusions: The clinical implication of our results is that for unstable extra-articular and simple intra-articular fractures of the distal radius in a patient under the age of 70 years, volar plating should be considered when rapid recovery of wrist function is important. Both techniques can provide good subjective and objective functional outcomes at one year.

However, overlooking the slower return of wrist function, external fixation is still an effective, inexpensive, and less invasive method.

Key words: “distal radius fractures” and “volar plate” or “external fixator”.

Introduction

Aim of Work

Materials and Methods

Results

Discussion

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