Topic: **Bovenste extremiteit**
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Redisplacement of reduced distal radius fractures in adults; does casting type play a role? The CAST study, a multicenter cluster randomized controlled trial

B Barvelink[1], M Reijman[1], S Smidt[1], P Miranda Afonso[2, 3], J A N Verhaar[1], J W Colaris[1]

[1]Erasmus MC - Lokatie Rotterdam, ROTTERDAM, Orthopedie
[2]Erasmus MC - Lokatie Rotterdam, ROTTERDAM, Epidemiologie
[3]Erasmus MC - Lokatie Rotterdam, ROTTERDAM, Biostatistiek

Introduction

Adequatly reduced distal radius fractures often redisplace in a cast. It is unclear if our immobilization method has any influence on the redisplacement risk. We investigated whether circumferential casting (CC) leads to fewer fracture redisplacements and better one-year outcomes compared to plaster splinting (PS).

Method

This is a pragmatic, open-label, multicenter, two-period cluster-randomised superiority trial. Eligible participants (age ? 18y) had an adequatly reduced DRF. The primary outcome was incident radiographic redisplacement within five weeks of cast immobilisation. Secondary outcomes comprised cast complaints, clinical outcomes at three months, patient-reported outcomes (pain, quickDASH and PRWHE questionnaires), and adverse events during one-year.

Results

The study sample comprised 420 patients. No significant difference existed in incident redisplacement between interventions (CC 49%, PS 47%, p = 0.85, OR = 1.05, 95% CI 0.65–1.70). PS patients reported more pain than the CC group during the first week of treatment (NRS 4.7 vs. 4.1, p = 0.014). Cast complaints, clinical outcomes and patient-reported outcomes did not differ between groups (p > 0.05). Compartment syndrome did not occur.

Conclusion

Circumferential casting did not result in fewer fracture redisplacements compared to plaster splinting. Both casting techniques resulted in comparable outcomes during the first year post-injury.