

#1330 - Clinical Study

Surgical Reconstruction Or Rehabilitation For Non-Acute And Longstanding ACL Rupture (ACL SNNAP Pragmatic Randomised Controlled Trial)

Orthopaedics / Knee & Lower Leg / Miscellaneous

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Background

Anterior cruciate ligament (ACL) rupture is a common debilitating injury giving rise to instability of the knee. A pragmatic trial was designed to confirm the best management strategy between reconstructive surgery or non-surgical treatment for patients with a non-acute ACL injury and persistent symptoms of instability.

Objectives

To determine in patients with non-acute anterior cruciate ligament injury whether a strategy of surgical management (reconstruction) without prior rehabilitation was more clinically effective and cost effective than non-surgical management (rehabilitation with option for later ACL reconstruction only if required).

Study Design & Methods

A pragmatic, multi-centre, superiority, randomised controlled trial with two-arm parallel groups and 1:1 allocation in 29 UK secondary care NHS orthopaedic units. Patients were randomly assigned by computer to either 1. ACL surgery (reconstruction) or 2. rehabilitation (physiotherapy - but with subsequent ACL reconstruction permitted if instability persisted after treatment). Patients were stratified by site and baseline KOOS4. This “management” trial design with sequential interventions permitted represented normal practice. The primary outcome was the Knee injury and Osteoarthritis Outcome Score (KOOS4) at 18 months post randomisation. Secondary outcomes included complications, return to sport/activity, patient satisfaction and generic health quality of life/knee resource use for health economic evaluation. The principal analyses were ‘intention to treat’ based, with KOOS-4 scores analysed using linear regression.

Results

316 patients were recruited between 1st February 2017 and 12th April 2020. KOOS4 mean (standard deviation) scores at 18 months post-randomisation were 73.0 (20.0) in the surgical arm (n=156), and 64.6 (20.0) in the rehabilitation arm (n=160). The adjusted mean difference was 7.90 (95% CI 2.54 to 13.19; p=0.0053) in favour of surgical management. 41% (n=65) of those allocated to rehabilitation underwent subsequent surgery according to protocol within 18 months. 43 patients allocated to surgery did not receive their allocated treatment (28%). There were no differences between groups in surgical

complications. Health economic analysis showed that despite higher healthcare costs for surgery, surgical reconstruction was cost effective.

Conclusions

Both treatments provided benefit but early surgical reconstruction, as a management strategy for non-acute longer-standing ACL injured patients with persistent symptoms of instability, was clinically superior and more cost effective in comparison to rehabilitation management with subsequent reconstruction as required. Patients not wishing to undergo surgical reconstruction, or those in a more acute state, can still derive benefit from non-operative care.