

Physical Therapy Is Not Inferior To Arthroscopic Partial Meniscectomy For Degenerative Meniscal Tears. Conclusions Based On Five-Year Follow-Up Evaluation Of The ESCAPE Study.

Orthopaedics / Knee & Lower Leg / Conservative Treatment

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Background

In patients with degenerative meniscal tears, arthroscopic partial meniscectomy (APM) compared to exercise therapy yields no clinically important benefit in patient reported knee function at 1 and 2 years follow up. This has led to a shift towards conservative treatment in clinical guidelines. Nevertheless, partial arthroscopic meniscectomies are still frequently performed worldwide. Long term effects of arthroscopic partial meniscectomies and exercise therapy for patients with degenerative meniscal tears have not yet been considered in clinical guidelines. Additional evidence on long term outcomes will strengthen the current knowledge and is needed to implement long term evidence in the clinical guidelines.

Objectives

The aim of our study is to compare patient reported knee function at 5 year after APM or physical therapy in a population with degenerative meniscal tears.

Study Design & Methods

The ESCAPE study is a non-inferiority, multicenter, randomized controlled trial included patients between 45 and 70 years with a degenerative non-obstructive meniscal tear. We excluded patients with a locked knee, severe knee osteoarthritis and a BMI >35. All participants signed a written informed consent and were subsequently randomized for APM or physical therapy.

The primary outcome was the difference between APM and physical therapy on the patient-reported knee function, quantified by the International Knee Documentation Committee Subjective Knee Form (IKDC) questionnaire (scores ranging from 0 to 100, worst to best).

We analyzed the 5-year follow up data following the intention-to-treat principle using linear mixed model analysis with random intercept. The non-inferior threshold of 11 points was based on the Minimal Important Change on IKDC in this population.

Results

Between July 2013 and November 2015 we randomized 321 participants to either APM (n=159) or physical therapy (n=162). Both groups show similar baseline characteristics. A total of 278 (87.1%) patients completed the 5 year follow-up, 139 in each group. From baseline to 5 years of follow-up, the APM group improved (mean \pm SD) 30.0 points (from 44.7 \pm 16.6 to 74.7 \pm 18.4) and the physical therapy group improved 26.6 points (from 46.5 \pm 14.6 to 73.1 \pm 17.7) on the IKDC score for knee function.

The mixed model analysis revealed a crude effect of treatment on the IKDC score between APM and physical therapy at 5 year follow-up of 2.8 points in favor of APM (95% CI -0.9 to 6.5; p-value for non-inferiority <.001). The crude between group differences at 3 months is 0.8 (95%CI -2.8 to 4.3; p-value for

non-inferiority <.001) , at 6 months is 3.4 (-0.23 to 7.1; p-value for non-inferiority<.001), at 12 months is 5.7 (2.0 to 9.5; p-value for non-inferiority=.003), at 2 years is 5.0 (95%CI 1.4 to 8.7; p-value for non-inferiority <0.001). None of the confidence intervals crossed the threshold of non-inferiority, which indicates that physical therapy is not inferior to APM.

Conclusions

This long term follow-up of the ESCAPE study showed no clinically relevant differences between physical therapy and APM over a period of 5 years in patients with a degenerative meniscal tear. Together with previous studies on (cost-)effectiveness, these findings supports physical therapy as preferred treatment for patients with a degenerative meniscal tear.