

Meniscectomy & Osteoarthritis: A Mean 40 Year Follow-Up

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Summary:

Patients who underwent total meniscectomy prior to their 19th birthday under the auspices of a single surgeon were reviewed clinically, radiographically and with PROMs.

Abstract:

A mean 40 year follow-up outcomes of 53 patients who underwent open total meniscectomy prior to their 19th birthday, who had no other intra-articular pathology identified at the time, under the auspices of a single surgeon are presented.

As part of a longitudinal follow-up the cohort of patients who underwent radiographic evaluation at the 30-year follow-up were identified and invited for clinical and radiographic evaluation as well as subjective review by 2 separate patient reported outcome measures (PROMs).

The data were analysed with SPSS 17.0 (SPSS Inc., Chicago) statistical package where a p value of less than 0.05 was deemed to be statistically significant. Data were examined for normality using the Shapiro-Wilk test. Parametric data was analysed with paired t-test, and for non-parametric data the Wilcoxon signed-rank test and the Mann-Whitney U test were used. Correlations were scrutinised with the Kendall's tau coefficient.

Results

A 13.2% of patients have had a total knee arthroplasty (TKA) at the time of follow-up. An increased rate of osteoarthritis (OA) between the operated and non-operated knees was observed, indicating a >4-fold relative risk (RR) at 40 years post-operatively. A statistically significant difference was observed between the operated and non-operated knee in terms of range of motion (ROM) and tibiofemoral (TFJ) OA. All patients were deemed symptomatic as per KOOS score.

The Kendall's tau coefficient demonstrated a moderate but statistically significant inverse correlation between the Ahlback radiographic score and the IKDC, KOOS Sport and ADL scores ($p=0.009$, $p=0.044$, $p=0.010$ respectively) only. There was also a statistically significant negative correlation between radiographic OA scores and ROM ($t = -0.61$).

Conclusion

This is the longest mean follow-up reported in the English literature to date and it clearly demonstrates that total meniscectomy in adolescent patients is a cause of symptomatic knee osteoarthritis later in life, with a resultant 132-fold increase of arthroplasty rate in comparison to their geographical and age-matched peers