

Do women and men have different outcomes 1 year after bicondylar total knee arthroplasty (TKA)? – Analysis of treatment effects, symptom scores and willingness to do surgery again in a large single center cohort

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Swiss Orthopedics, annual meeting 2020, Basle

Introduction:

Gender differences were found in femoral condyle morphology and lead to the development of “gender” adapted implants. In a met-analysis no clinical benefit of gender-specific TKA implants could be found (Cheng et al.; Acta Orthopaedica 2014). However, a gender difference was found for myocardial infarction: more symptom localizations in women (Lawesson et al.; Int Journal of Cardiology 2018) and delayed treatment in women (Meyer et al.; Europ. Heart Journal 2019).

With this study, we wanted to analyze gender differences for symptom intensity, the 1-year treatment effects and willingness to do the surgery again.

Methods:

The study was performed with a University-based arthroplasty registry. Included were all patients with primary bicondylar TKA for osteoarthritis; excluded polyarthritis, unicondylar TKA, constraint TKA, revision, neoplasia, infection, no agreement.

All patients received a cemented bicondylar TKA without patellar resurfacing.

All patients had assessment with patient questionnaires (Oxford Knee score; OKS) before and one year after TKA. 1 year postoperatively the patients were asked about their willingness to do the surgery again (yes, probably yes, unsure, probably not, not)

Statistical analysis: For each patient the treatment effect was calculated using the OKS (TE = symptom reduction/baseline symptoms). Descriptive statistics were used to determine the variability of scores for both genders and the rates for willingness to do the surgery again.

Results:

We could include 583 patients treated with unilateral TKA from 01/2013 to 12/2017 with a complete 1 year follow up; 313 women (53.7%) and 270 men. The mean age at surgery was 68.7 years from 39.1 to 87.7 years old. The treatment effects ranged from 1 to -0.62 with a mean average treatment effect of 0.56; for women 0.56 (SD 0.28) and for men 0.57 (SD 0.34) with no significant difference. The mean OKS scores preop to postop ameliorated for women from 20.8 to 35.9 and men from 23.6 to 37.6 with a significant gender difference at baseline and 1 year follow up ($p < 0.05$). The rates of willingness to do the surgery again were significantly lower for women 80.4% (men 89.1%; $p < 0.006$).

Conclusion:

In this large single center registry, the treatment effects for bicondylar TKA were equal for both genders. But there were significant higher mean symptom scores (OKS) for women also pre- and postoperatively. The rate of willingness to do the surgery again is significantly higher in men.