ANALYSIS ON THE POSSIBLE ASSOCIATION BETWEEN RHEUMATOID ARTHRITIS AND DIABETES MELLITUS TYPE 2
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OBJECTIVES: Rheumatoid Arthritis (RA), a chronic inflammatory disease, may predispose to the development of Type 2 Diabetes Mellitus (T2DM). We aimed to compare incidence rates of T2DM in RA versus non-RA populations and study the influencing factors. METHODS: The study population consisted of participants in the National Data Bank for Rheumatic Diseases (NDB), where patients with rheumatologic disorders completed semiannual questionnaires, from 1998 through 2008. Osteoarthritis (OA) patients were used as controls. T2DM was determined based on self-reports of disease and on the use of hypoglycemic medication. The association between RA and T2DM was investigated using COX logistic regressions adjusted for relevant clinical and demographic covariates. RESULTS: A total of 14,481 participants diagnosed with RA (79.5% female; mean age 51.8 years) and 3,441 participants diagnosed with OA (84.5% female; mean age 61.6 years) were followed during 6,943 person-years. RA subjects had lower Body Mass Index (BMI) and less major comorbidities than controls. In patients with RA the T2DM incidence rate was 10 per 1,000 person-years, while the incidence rate for OA was 15 per 1,000 person-years. Both rates are superior to most estimates calculated among the US population. However, the covariate-adjusted risk of T2DM in patients with RA versus OA was not significant (HR = 0.94; 95% CI: 0.79–1.12; p = NS). Male gender, age, BMI, non-caucasian ethnicity, major comorbidities, low education level and pre existing diabetes were significantly associated with the incidence of T2DM. Some RA drugs had a clear protective role on T2DM, mainly methotrexate (19% risk reduction; p = 0.022) and hydroxychloroquine (47% risk reduction; p < 0.001). CONCLUSIONS: RA per se is not associated with increased risk of T2DM. Both RA and OA are associated with known T2DM risk factors, such as BMI and some comorbidities, increasing the incidence rates of T2DM. Some drugs for RA treatment have a significant protective effect on the T2DM risk.

DETERMINING THE OPTIMAL TIMING FOR TOTAL KNEE REPLACEMENT
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OBJECTIVES: Total knee replacement (TKR) is a commonly used surgical procedure for patients with severe joint damage caused by arthritis; however, there remain difficulties in establishing criteria to define the optimal timing for TKR. The aim of this study was to identify the preoperative threshold HRQoL scores were associated with better postoperative outcomes and those associated with greater improvement. METHODS: Data were collected from 1715 patients undergoing TKR between 2001 and 2006. Patients were interviewed at baseline and at 6 months and 2 years after surgery. At all three interview sessions, patients were asked to complete the Short-Form (SF-36) and the Oxford Knee Score (OKS). As physical function and pain have been identified as the key domains in osteoarthritis, the OKS and the physical functioning (PF) and bodily pain (BP) scales of the SF-36 were selected as the outcome measures of this study. Summary statistics were computed for preoperative, postoperative, and improvement in outcome scores. Visual inspection of the simple error bar charts were used to identify the threshold preoperative scores that were associated with better postoperative scores and those associated with more improvement. RESULTS: Patients with poorer preoperative HRQoL had worse postoperative outcomes but experienced greater improvement after TKR compared to those with better preoperative HRQoL. The highest postoperative PF scores were associated with a preoperative PF score of 50 points and above, whereas the baseline threshold OKS score was between 35 and 40 points, a baseline PF score of 30 points and an OKS score of >40 points are associated with the greatest improvement. No clear leveling off pattern was observed in the BP scores. CONCLUSIONS: PF and OKS threshold scores associated with optimal outcomes of TKR were identified in this study. Future research is needed to examine the predictive value of the scores identified in improving patients’ postoperative outcomes.

HEALTH-RELATED QUALITY OF LIFE AFTER TOTAL KNEE REPLACEMENT OR UNCOMPARTMENTAL KNEE ARTHROPLASTY IN AN ASIAN POPULATION
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OBJECTIVES: To examine health-related quality of life (HRQoL) following total knee replacement (TKR) or unicondylar knee arthroplasty (UKA). METHODS: Asian adult patients undergoing either TKR or UKA in a hospital of Singapore between 2001 and 2006 were interviewed before surgery and 6 and 24 months postoperatively to obtain demographic information and HRQoL scores using the Short-Form (SF-36) and the Oxford Knee Score (OKS). RESULTS: Data were collected from 2243, 1715, and 1113 patients at baseline, 6, and 24 months, respectively. TKR patients had a lower preoperative score than UKA patients on OKS and four subscales of the SF-36 (<0.01). Both TKR and UKA patients’ OKS and SF-36 subscale scores improved six months postoperatively except in the general health domain. SF-36 role physical (RP) and bodily pain (BP) scores showed the most improvement (40.9 and 33.0 points in TKR and 36.9 and 31.4 points in UKA patients, respectively). The most substantial improvements between baseline and two years after surgery were in the physical domains of HRQoL (RP, BP, and physical functioning (PF)). In addition, in both groups, three domains of SF-36 (RP, BP, PF, social functioning, and role limitations due to emotional problems) reached the proposed minimal clinically important difference (MCID) points. TKR patients’ SF-36 and OKS scores were not significantly different from those of UKA patients two year after surgery, except PF scores. Multiple regression analysis adjusting for sociodemographics showed that baseline scores were a significant predictor of the postoperative scores of OKS and all SF-36 subscales (p < 0.01), whereas the type of surgery was not associated with the postoperative scores. CONCLUSIONS: Both TKR and UKA patients experienced significant improvements in HRQoL, particularly in the RP and BP domains. After controlling for potential confounding variables, the type of surgery was not a significant predictor of patients’ postoperative HRQoL scores.