ORIGINAL STUDIES

Interdependence between quality of life, clinical and isokinetic results in knee osteoarthritis patients with joint replacement indication

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Background. Knee osteoarthritis is present in approximately 10% of the general population and its prevalence is even higher in former athletes. Clinical scores in knee osteoarthritis emphasize range of movement, stability and pain and do not include muscle strength assessment. It has already been shown that muscle imbalance and especially extensor deficiency is responsible for many symptoms, including pain and instability, and thus strongly influences the quality of life.

Aims. To evaluate the isokinetic strength of the knee in advanced osteoarthritis patients and to correlate it with clinical and life quality scores.

Methods. 20 patients with knee osteoarthritis in surgical stage, representing Patient Group (PG) were compared with 14 healthy subjects of comparable age (Control Group CG). Clinical examination was performed using the Hospital for Special Surgery (HSS), Knee Society (KS) and Patellar scores. Quality of life was assessed by the Short Form 36 Health Questionnaire. Isokinetic evaluation of knee extensor and flexor muscles was performed by a Gymnex Iso 2 Dynamometer at angular velocities of 60^{o}/s and 120^{o}/s.

Results. There were statistically significant differences between patients and controls regarding clinical scores (HSS, KS, Patellar Score). Quality of life was significantly worse in PG for 3 aspects: physical functioning, physical role limitation and bodily pain. Peak torques at 60^{o}/s and 120^{o}/s were significantly lower in PG than in CG for both extension and flexion. Correlation analysis of isokinetic data and clinical and quality of life scores, respectively, revealed statistically significant, but low correlation coefficients.

Conclusions. Before knee arthroplasty muscular testing has to be performed in parallel with clinical and life quality assessment and corrective muscular strengthening performed.

Keywords: total knee arthroplasty, muscular strength, isokinetic, quality of life, osteoarthritis.