Sports Activity Following Total Knee Arthroplasty in Patients Older than 60 Years

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ABSTRACT

In a retrospective study with a population over 65 years, sports activity was conducted 6 years after cruciate retaining (CR) total condylar knee arthroplasty (TKA) with rotating platform (RP). Eighty-one Patients (71.8 ± 5.4 years) were examined at follow-up 6.4 ± 0.9 years postoperatively. Sport was practiced 5.3 hours every week in mean. Patients were active in sports 3.5 times per week. Twenty-five percent performed high impact sports, 47% medium impact sports and 52% low impact sports at follow-up. In KOOS sports 60 ± 28 was reached, in WOMAC 12.1 ± 15.1. It can be concluded that in this population 50% of patients were active in medium and low impact sport 6 years after surgery. However, a quarter of patients were also active in high impact sports.

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In the modern society sport is an essential part of life to get life quality, health, self-esteem, and social contacts. Just over the age of 50 sports is becoming increasingly important for social integration. One common cause of sports disability is osteoarthritis of the knee. The high expectations of patients to a good functional outcome after TKA are therefore understandable. In recent years a controversy discussion was held on high impact loading activities after TKA. Often physicians and their patients have concerns about sports activities after TKA. These are supported by studies that showed an increased wear and loosening of the artificial joint [4,5]. On the other hand, it is assumed that physical activity in an adjusted degree is reducing the loosening rates of prostheses, or at least has no negative influence [4,5].

It was the objective of the present study to examine sports activity after total knee arthroplasty in impact and frequency as well as possible correlations to the patient-related outcome.

Material and Methods

In a retrospective follow-up clinical study, performed from November 2010 to September 2013, sports activity of 81 patients from an Alpine area was explored. Ninety-seven percent of these patients were sports active during live time. Patients were examined and questioned 6.4 ± 0.9 years after implantation of a total knee arthroplasty.

IRB admittance for the study has been obtained from the ethics committee of Freiburg University authorities November 16th 2010, admission number 346/10.

Included were all consecutive patients (ASA I–III) who received a cemented cruciate retaining total knee arthroplasty with rotating platform (LCS) without resurfacing the patella at the same hospital by the same surgeon between February 2004 and September 2007. Exclusion criteria for participation in this study were the patient's age below 60 and above 80 years, pre-operative arthrofibrosis, status after knee joint fractures, osteotomies, previous knee ligament surgery, functional impairing gonarthritis of the contralateral knee, arthritis of other joints, other joint arthroplasty of the lower extremity or rheumatoid disorders. Patients between the age of 60 and 80 years were selected to control an age related sports activity of a representative retired population. Forty-three female and 38 male patients at the age of 71.8 ± 5.4 years were examined at the follow-up. The average body height was 171.5 cm and the average body mass index was 28.4. Patients had the following comorbidities: 55.6% (n = 45) hypertension, 25.9% (n = 21), chronic back pain, 17.3% (n = 14) treatment after cancer, 9.9% (n = 8), diabetes mellitus type I/II, and 7.4% (n = 6) pulmonary disease. Index diagnosis was grade IV osteoarthritis (Kellgren/Lawrence) of the knee. Forty-seven patients (58%) were operated on the right knee and 34 patients (42%) on the left side. Thirty-one patients showed a preoperative valgus leg axis between 0.5 and 20° and 50 patients a varus leg axis between 0.5 and 12°. Two patients were lost at the time...