

Optimization of kinesitherapy programs in patients with hip endoprostheses depending on their bone mineral density

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Abstract

Background. Osteoporosis plays an important role in the rehabilitation of patients with hip endoprostheses, being involved in potential intraoperative complications (iatrogenic acetabular fractures or protrusions) and postoperative complications (early loss of the prosthesis), and becoming a serious problem in the case of the subsequent revision of the prosthesis, when it can limit the reconstructive options. The role of physical exercise in the rehabilitation of coxofemoral arthroplasty is unquestionable; on the other hand, any complex therapy program for osteoporosis should include specific kinesitherapy.

Aims. The aim of the study is to demonstrate the role of bone mineral density in the case of patients with total hip endoprostheses, in order to develop specific and adequate kinesitherapy programs.

Methods. The study was performed at the Clinical Rehabilitation Hospital Cluj-Napoca, in the period June-December 2009, in 58 patients (36 women, 22 men) aged between 30-83 years with uni- and bilateral cemented and uncemented total hip endoprostheses. A standard study protocol was elaborated, which included the information and the enrollment of the patients, the clinical evaluation of the patients, the determination of bone mineral density by the method of dual energy X-ray absorptiometry (with the software for orthopedic prostheses available), the evaluation of the patients using the Oxford hip score, the quality of life index SF-36, and the Quality of Life Questionnaire of the European Foundation for Osteoporosis QUALEFFO-41.

Results. The statistical analysis of the data demonstrated a reverse correlation between the scores and the bone mineral density value.

Conclusions. Decreased bone mineral density slows the recovery of patients with endoprostheses and reduces the quality of life of these patients. Kinesitherapy maintains periprosthetic bone mineral density and accelerates the patient's recovery.

Keywords: bone mineral density, recovery, kinesitherapy, total hip endoprosthesis.