Balance disorders in patients with primary osteoporosis related to creatininic cleareance

Laszlo Irsay, Monica Borda, Andreea Diana Marquise, Rodica Ungur, Viorela Ciortea, Ioan Onac, Liviu Pop
"Iuliu Haţieganu" University of Medicine and Pharmacy, Cluj-Napoca

Abstract

Background. The risk factors for osteoporotic fractures include muscular weakness and low creatine clearance. The authors tried to find a correlation between these risk factors.

Aims. The evaluation of the muscle strength and the correlation between the balance and the muscle strength with the creatinine cleareance were established as primary objectives in patients suffering from primary osteoporosis. Other objectives consisted of: the correlation between falls, fractures and low creatinine clearance, the correlation between falling and vertebral fractures and the correlation between the different tests described below and falling.

Methods. The study was carried out on a cross-sectional basis, which included 32 patients with primary osteoporosis. Patients with balance disorders or undergoing psychotropic treatment, or with severe osteoarthritis of the lower limbs or severe systemic illness were excluded. Patients were asked to perform three tests for balance: chair rising test, up and go test and the tandem test. Deviations of the spine were also noted. Creatinine clearance was calculated using the Cockroft-Gault formula.

Results. A high number of patients have balance disorders resulting from the tests performed; 12 patients (37.5%) presented falls in the last 12 months, kidney disorders have a high corrrelation with the deviations of the spine (OR=8, 95%, CI 1.24–55.40, p=0.011), renal disorders have a high correlation with non-sincopal falls (OR=8, 95%, CI 1.24–55.40, p=0.011).

Conclusions. Balance disorder is a frequent problem in patients with osteoporosis and creatine clearance is a simple, cheap and reliable test for the estimation of fall risks in patients with osteoporosis.

Key words: osteoporosis, balance disorders, creatinine clearance.