

Clinical aspect of patients with a recent clinical fracture, presenting at a fracture liaison service

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Objective

To assess the differences in prevalence of vertebral fracture and SECOB patients 50 years and older with a recent clinical fracture according to bone mineral density (BMD).

Material and methods

All consecutive patients presenting at the Fracture Liaison Service (FLS) of MUMC with a recent non-vertebral or clinical vertebral fracture were included. Fractures were categorized according to Center (1). DXA was performed and vertebral fractures were assessed by Vertebral Fracture Assessment (VFA) or by X-ray. A semi-quantitative scoring was performed according to Genant into grade 0-3. A vertebral fracture (VF) in this study was defined as a VF grade 2 or 3. Laboratory tests were performed [serum calcium, phosphate, 25(OH)D, protein electrophoresis, creatinine, PTH, TSH, and in men < 70 years with osteoporosis serum testosterone].

Results

Between May 2012 and October 2013, 945 patients presented at the FLS with a recent clinical fracture (71.0% women, mean age 65.9 ± 9.9 years).

Of 93 patients (9.8%) with a clinical VF, 46.2% had osteoporosis and 40.9% osteopenia. At least one new contributor to SECOB was found in 25 patients (27.5%).

Of 852 patients presenting with a non-vertebral fracture, 254 (29.8%) had osteoporosis, 438 (51.4%) osteopenia and 160 (18.8%) a normal BMD. Figure 1 shows the BMD according to baseline fractures.

Patients with a hip fracture more frequently had osteoporosis than patients with a major, minor or finger/toe fracture ($p < 0.001$ for hip vs. all other fractures).

At least one prevalent VF was found in 153 patients (17.9%) presenting with a non-vertebral fracture. Respectively 26.8%, 15.3% and 11.3% of patients with osteoporosis, osteopenia and normal BMD had a prevalent VF ($p < 0.0001$). New SECOB was found in 23.5%, 23.8% and 20.0% of patients with osteoporosis, osteopenia and normal BMD ($p = NS$).

Figure 1. Baseline Fractures according to baseline BMD

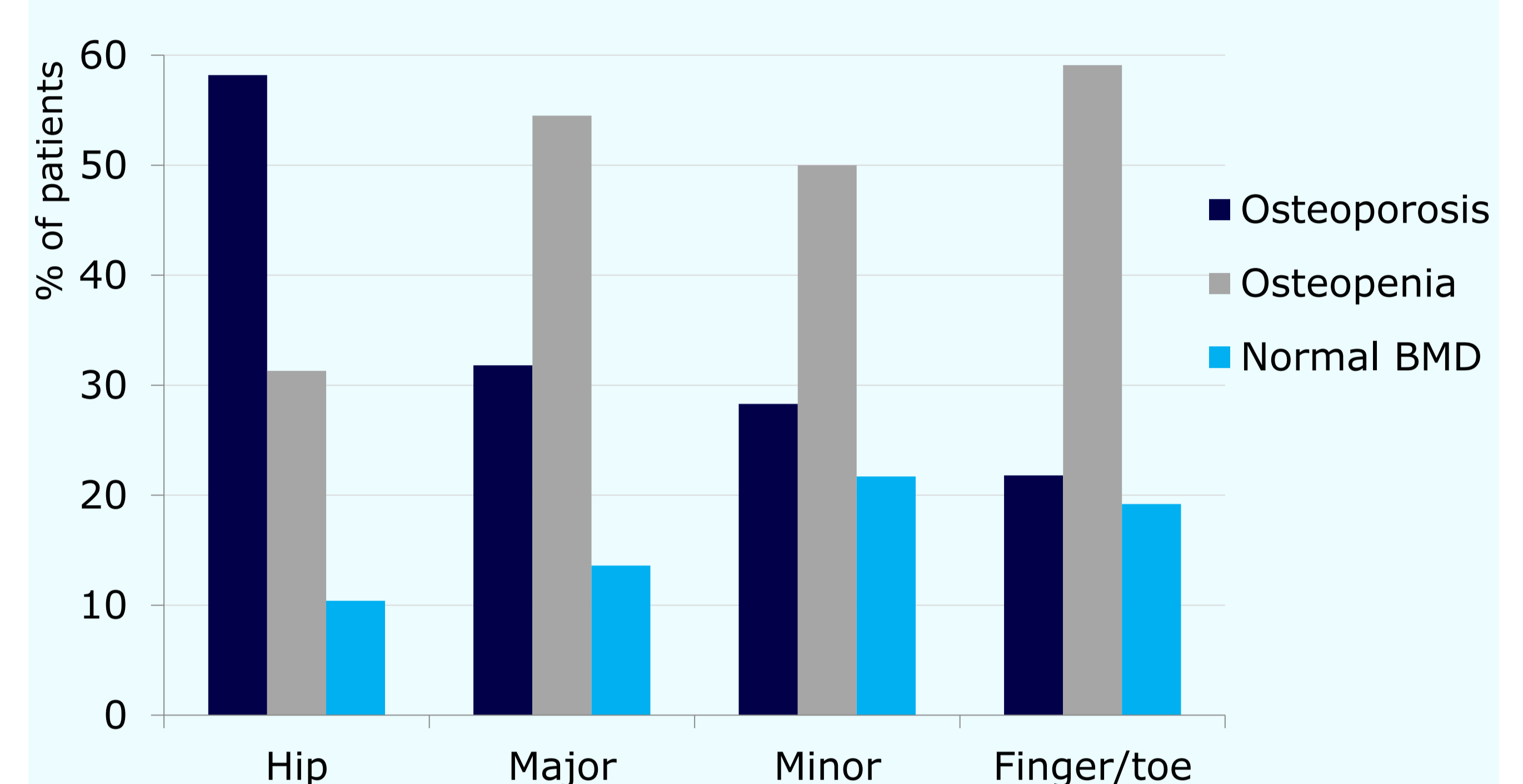
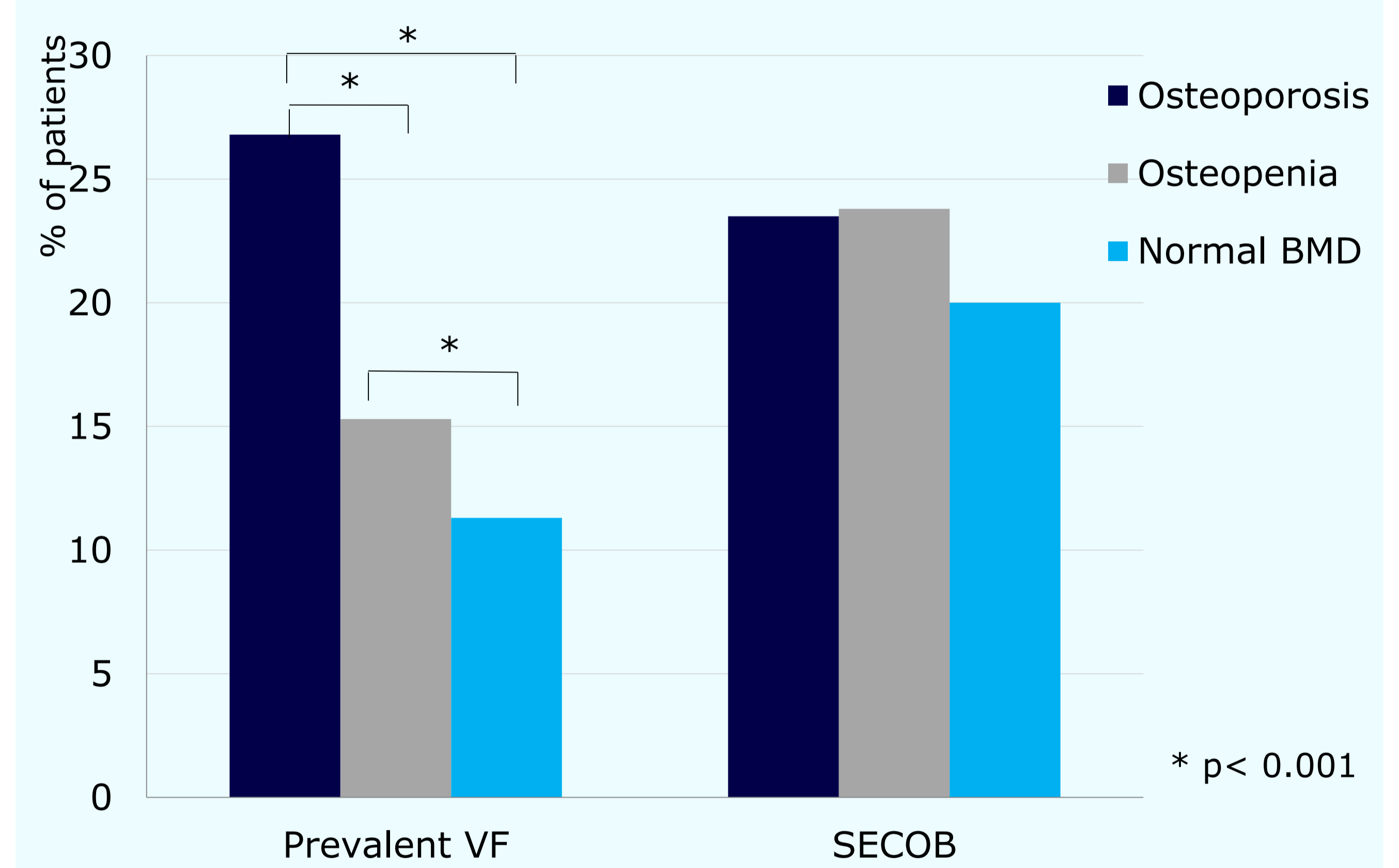


Figure 2. Prevalent VF and SECOB according to baseline BMD



Conclusion

At presentation at the FLS after a recent clinical fracture, nearly 10% of patients had a clinical VF, 27% of them had SECOB. In patients presenting with a non-vertebral fracture, VFs were present in all patients regardless of BMD, but more frequently found in patients with osteoporosis than in patients with osteopenia or normal BMD. New SECOB on the other hand was present in 23% of all patients, independent of BMD.

1. Center JR, Bliuc D, Nguyen TV, Eisman JA. Risk of subsequent fracture after low-trauma fracture in men and women. JAMA. 2007;297(4):387-94.