[Role of osteoporosis in trauma diagnostics]

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PURPOSE: To evaluate the current bone mineral density (BMD) distribution in elderly patients hospitalized due to traumatic hip fracture and to assess the necessity of concomitant pharmacotherapy of underlying osteoporosis.

MATERIALS AND METHODS: 58 female patients > or = 50 years (mean 81 years) with proven hip fracture were included. The diagnosis of fracture was established either by conventional radiography (CR) or by computed tomography (CT). BMD was assessed prospectively by means of dual energy X-ray absorption (DXA) measurement of the lumbar spine and/or femoral neck. DXA data was routinely achieved by analysis of T- and Z-values of the BMD. Distribution of BMD was assessed. Results for both measurement sites were compared using T-test and Pearson correlation analysis.

RESULTS: 56/58 patients with proven hip fracture received DXA of the lumbar spine, 51 DXA of the femoral neck. The mean BMD was 0.829 +/- 0.137 g/cm (2) (lumbar spine) and 0.451 +/- 0.126 g/cm (2) (femur). T-values were -2.8 +/- 1.14 (lumbar spine) and -3.53 +/- 0.97 (femur). Compared to the normal distribution (lumbar spine), 53 patients (94.6 %) had diminished BMD (T < or = -1). Of these 15 (26.8 %) had osteopenia (T > -2.5) and 38 (67.9 %) had osteoporosis (T < or = -2.5) according to WHO definition. With respect to femoral bone measurement, all patients (100 %) had diminished BMD (T < or = -1), 9 patients (17.6 %) had osteopenia (T > -2.5) and 42 patients (82.4 %) had osteoporosis (T < or = -2.5). Results for different measurement sites differed significantly and were weakly correlated.

CONCLUSION: This data indicate that diminished BMD in terms of osteopenia or osteoporosis is a frequent finding in hip fractures of elderly females. A large majority of these elderly patients therefore should be treated according to recent guidelines for treatment of osteoporosis. Our data indicate that this entity is potentially underdiagnosed and should be considered by radiologists as well as traumatologists.