BONE MINERAL DENSITY AND HIP-FRACTURE TYPE IN 96 OLDER MEN

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Several studies focusing on hip-fracture women showed that significant differences were associated with the fracture type. In particular, bone mineral density was lower in the women with trochanteric fracture than in those with cervical fracture. Consistently, the prevalence of vertebral fractures was higher in the women with trochanteric fracture. Conversely, the relationship between bone mineral density and hip fracture type has been scarcely studied in men. Our aim was to compare bone mineral density in men with fractures of the trochanteric and cervical regions.

We studied 104 men with an original hip fracture, consecutively admitted to our Division of Physical Medicine and Rehabilitation. Eight men could not undergo bone density assessment and were excluded from the study. The fractures of the remaining 96 men were classified as either cervical (44 men) or trochanteric (52 men) on the basis of radiographic and surgical findings. Bone mineral density was assessed at the contralateral femur 22.3±9.7 (mean ± SD) days after fracture occurrence by DXA scan (Hologic QDR 4500W).

The bone mineral density assessed at total proximal femur was expressed as a Tscore; it was significantly lower in the men with trochanteric fracture than in those with cervical fracture: -2.59±0.95 (mean ± SD) versus -2.05±0.74 (difference between groups 0.54; CI 95% 0.19-0.90; p=0.003). At logistic multiple regression, the association between bone mineral density and the fracture type was significant after adjustment for age, body height, body weight and time spent between fracture occurrence and bone density assessment (p=0.003). Similar results were found when bone mineral density was assessed at other four sites of the proximal femur (femoral neck, trochanter, intertrochanteric region, and Ward's triangle).

Femoral bone mineral density is significantly lower in the men with trochanteric fracture than in those with cervical fracture of the hip. So as in women, the two types of hip fractures in men should be treated separately in both clinical and epidemiological studies, at least for the aspects affected by bone mineral density.