

복막투석환자에서 나이, 당뇨병, 성별에 따른 BMD와의 관련성

을지대학교 대전병원 신장내과

최현주 · 김민옥 · 이영숙

Bone Mineral Density (BMD) in Relation to Age, DM and Gender of Continuous Ambulatory Peritoneal Dialysis (CAPD) Patients

Hyun-Ju Choi, Min-Ok Kim, Young Sook Lee

Division of Nephrology, Department of Internal Medicine, Daejeon Hospital, Eulji University

Aims : Bone disease in dialysis patients is due primarily to the effects of secondary hyperparathyroidism, in addition to be a consequence of numerous factors such as Bwt, nutrition, co-morbidity, menstruation and age. However, little is known about the relationship between Age, BMD, nutritional status and inflammation of CAPD patients. The aim of our study was to evaluate BMD and relate it to age, DM, gender, BIA and other parameters that may influence bone tissue.

Methods : Only patients older than 18 years, undergoing PD for more than 3 months, not taking glucocorticoids, without catabolic illness and fractures, and with normal thyroid function were included. DEXA, a non-invasive accurate method which estimates BMD and content, as well as fat and lean body mass was used to measure BMD in whole body, spine, pelvis and lower extremities. DEXA and multifrequency BIA was checked-up before (wet) and after (dry) PD. Simultaneously the following parameters were evaluated: serum PTH, Ca-P parameters, pH, inflammatory markers, BIA, nutritional state.

Results : The main characteristics of the 22 (M:F=11:11) patients were age=53.1±14 years old, duration of PD=23±31 months, serum albumin=3.7±0.4 g/dL, serum PTH=222±255 pg/mL, CRP=1.5±2.8 mg/dL and BMD=1.1±0.1 g/cm² (wet), 1.1±0.1 g/cm² (dry) (mean±SD). The 22 PD patients were divided into 2 groups according to Ages. Group I (n=14, F=6) consisted of patients younger than 60 years (45.1±10.6 yrs, dialysis vintage 31.6 months). Group II (n=8, F=3) consisted of older patients (67.13±4.9 yrs, dialysis vintage 8.8 months). Significant differences between group I and II concerned BMD measured in T-score (wet and dry) (-0.23±1.19, -2.5-1.4 for group I vs -1.56±1.44, -2.8-1.5 for group II, p=0.034). Also, Separation of patients according to DM (n=13, F=8, 55.1±8.6 yrs, dialysis vintage 23.2 months) revealed significant differences in T-score (dry) and BMI. Not significant differences between patients separated according to age or DM in Ca-P balance, pH and serum markers of nutritional state, as well as comparable BMD in women and men, suggest that age and DM are the most important factor influencing loss of BMD in CAPD patients. Higher serum CRP in older patients suggests that inflammatory state may also significantly influence BMD in these patients.

Conclusion : Our data suggest that DEXA-based BMD (especially T-score) and BMI measurements in older, diabetics appear to be relevant and useful tool for body composition.