Title

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RISK ASSESSMENT FOR CORONARY ARTERY CALCIUM AND HIP BONE MINERAL DENSITY AMONG MAINTENANCE HEMODIALYSIS PATIENTS

ACC Poster Contributions
Ernest N. Morial Convention Center, Hall F
Tuesday, April 05, 2011, 9:30 a.m.-10:45 a.m.

Session Title: Epicardial Fat, Bone Mineral Density and Coronary Calcium: A Pathogenetic Role for Atherosclerosis?
Abstract Category: 37. CT Coronary Calcium and Noncoronary CT Applications
Session-Poster Board Number: 1169-206

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Background: End stage renal disease patients on maintenance hemodialysis (MHD) are at increased risk for cardiovascular and all-cause mortality. MHD subjects also are at increased risk for osteodystrophy and osteoporosis. Multidetector computed tomography (MDCT) is used to assess coronary artery calcium (CAC) burden in MHD subjects. Traditionally, osteoporosis risk is assessed by bone mineral density (BMD) using dual energy x-ray absorptiometry (DXA). BMD can potentially be assessed via MDCT. This study looks at the prospect of using MDCT to assess both CAC and BMD.

Methods: 109 subjects on MHD underwent MDCT for CAC scoring. Of those subjects, 65 also underwent hip BMD and pelvic BMD assessment via MDCT and DXA respectively.

Results: Mean CAC score for the study population was 1058.9±1467.1. Mean Hip BMD measured by MDCT was 0.76±0.22 gm/cm2. Mean Pelvic BMD via DXA was 1.02±0.18 gm/cm2. Pearson correlation between MDCT Hip BMD and DXA Pelvic BMD was 0.68 (P<0.0001).

Conclusions: Data demonstrates good correlation between BMD measured with MDCT and DXA. The study shows the feasibility of potentially utilizing MDCT to assess both CAC and BMD in end stage renal disease subjects.