

[2008] [THU0298] ASSOCIATION BETWEEN LUMBAR DISC DEGENERATION AND BIOCHEMICAL MARKERS OF BONE AND CARTILAGE REMODELLING

O. Bruyere¹, J. Collette¹, C. Christiansen², F. Fardellone³, A. Detroz¹, R. Deroisy¹, J. Reginster¹ ¹*Public Health, Epidemiology and Health Economics, University of Liege, Liege, Belgium;* ²*Center for Clinical and Basic Research, Ballerup, Denmark;* ³*Rheumatology Department, Hôpital Nord-Université d'Amiens, Amiens, France*

Objectives: To investigate whether radiographic lumbar disc degeneration (LDD) is associated with changes in biochemical markers levels of bone and cartilage remodelling.

Methods: 2395 postmenopausal women were included in this study. From lateral spine x-ray, four lumbar inter-vertebral spaces (i.e. L1-L2, L2-L3, L3-L4 and L4-L5) were evaluated for the presence and severity of osteophytes, disc space narrowing and sclerosis, following a validated method leading to the calculation of a global LDD score for each intervertebral space (from 0 to 2). Four biochemical markers were assessed: serum C-telopeptide crosslinks of type I collagen (s-CTX I), urinary C-telopeptide crosslink of type II collagen (u-CTX II), serum cartilage oligomeric protein (COMP), and serum YKL-40.

Results: 90.1% of the women had prevalent LDD (global score of 1 or 2) on at least one intervertebral space (88.4% when considering only prevalent disc space narrowing, 26.9% for anterior osteophyte, 2.6% for posterior osteophyte and 0.2% for sclerosis). The levels of biochemical markers were not significantly different between patients with prevalent LDD compared to patients without LDD, except for u-CTX II. Indeed, mean (SD) level of u-CTX II was 302 (191) ng/mmol Cr in women with LDD compared to 257 (170) in women without LDD ($p=0.0003$). When considering each individual radiographic features, u-CTX II was also significantly higher in women with presence of disc space narrowing ($p=0.01$) or anterior osteophyte ($p=0.006$) compared to women without these radiographic signs of LDD.

Conclusion: Postmenopausal women with radiographic features of LDD are characterized by increased bone cartilage degradation.

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