Low calcium intake linked with increased risk of osteoporosis and hypertension in postmenopausal women

EurekAlert

Rome, Italy, Thursday 17 June 2010: Italian postmenopausal women who have a low calcium intake show a higher risk of developing both osteoporosis and hypertension (a chronic medical condition in which arterial blood pressure is elevated) than those who consume higher levels of calcium according to research presented today at EULAR 2010, the Annual Congress of the European League Against Rheumatism in Rome, Italy.

In this Italian study of 825 postmenopausal women with hypertension, a significantly increased proportion of women (35.4%) who consumed a lower amount of calcium through intake from dairy sources, had a concurrent diagnosis of both hypertension and osteoporosis, compared with women who consumed a higher amount of calcium (19.3% $p<0.001$).

Further statistical analyses revealed that a lower calcium intake was associated with an increased risk of developing hypertension or osteoporosis over time when compared with controls (Odds Ratio (OR) hypertension: 1.43; 95%CI: 1.12-1.82, osteoporosis: OR 1.46; CI: 1.15-1.85). Women who consumed a lower amount of calcium were shown to be most likely to develop both conditions over time compared with women consuming a higher amount of calcium (OR 1.60; CI: 1.09-2.34).

"Our study confirms that there may be a link between hypertension and low bone mass and that a low calcium intake could be a risk factor for the development of osteoporosis in postmenopausal women" said Professor Maria Manara, Department of Rheumatology, Gaetano Pini Institute, Milan, Italy, and lead author of the study. "Our study has also shown that a low calcium intake from dairy foods may be involved in this association and could be considered a risk factor for the development of hypertension and osteoporosis."

The 825 subjects involved in the study were recruited from a cohort of 9,898 postmenopausal women referred to the Osteometabolic unit of the Gaetano Pini Institute in Italy, from 2002. Calcium intake from dairy sources was assessed by the number of standard servings of ~300mg calcium consumed by women in a week and subjects were stratified into 'quartiles'(lower 25%, median 50% and upper 25%). For each case, three controls were selected and matched for age. Women who had been treated with diuretics (drugs known to affect the generation of new bone material) were excluded from the study.

SOURCE [1]

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