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Platelet vitamin D receptor is reduced in osteoporotic patients.

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Source

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Abstract

AIM:

It is well known that vitamin D plays an important role in maintaining bone homeostasis and in regulating calcium absorption. The active form of vitamin D interacts with its receptor the VDR that is expressed in multiple tissues and it is involved in platelets (PLTs) function. In the present study we evaluate PLTs' VDR expression in osteoporotic as opposed to healthy subjects.

METHODS:

We enrolled in the study 77 women with postmenopausal osteoporosis, 33 healthy women of childbearing age, 49 healthy men, and 11 healthy women matched with patients for age and postmenopausal period. Thirty-nine patients had had one femoral fracture occurred after the age of fifty and attributable to primary osteoporosis. Bone mineral density, markers of bone metabolism and VDR levels were measured in all the subjects.

RESULTS:

Our data show that VDR level is lower in patients as respect to controls and is positively correlated with bone density, but not with markers of bone metabolism. We also found a decrease in the phosphorus levels in patients without differences in vitamin D levels and in the dietary calcium intake.

CONCLUSION:

The lower VDR expression in osteoporotic could indicate a lower ability to respond to vitamin D, and could be the explanation of the increase in the PTH and decrease in the phosphorus levels in patients with respect to controls.