Osteoporosis

CAN STATINES IMPROVE BONE QUALITY IN POSTMENOPAUSAL OSTEORRHISIS? A CROSS-SECTIONAL STUDY
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Background: Osteoporosis (OP) is the most frequent metabolic bone disease. It has low bone mass and microarchitectural deterioration, which increases the risk of fractures. The most commonly used drugs are bisphosphonates, however statins (ST) have pleiotropic properties, and some researchers suggested their use in OP.

Objectives: To determine the effect of ST on bone mineral density (BMD) in postmenopausal osteoporotic women.

Methods: A cross-sectional study, control case where postmenopausal women with hypercholesterolemia treated with ST for a period not less than 6 months were studied for two years. The control group was postmenopausal population that did not receive statins. Exclusion criteria: Diabetes, previous treatment with estrogen, calcitonin, anabolic, steroids, bisphosphonates or vitamin D during a period of 6 months prior to enter to the study or with amenorrhea less than 12 months. We evaluated age, weight, height, BMI, personal and first degree family members’ history of fracture, use of corticosteroids, smoking, alcoholism, daily calcium intake, sedentary lifestyle, phosphocalcic metabolism laboratory and Vitamin D. All patients were performed Bone Densitometry by dual-energy X-ray absorptiometry (DXA) with an Hologic equipment in right hip and lumbar spine, stageing them according to WHO. The statistical analysis was performed using the Student’s test and the Fisher test for categorical variables. Values of p less than 0.05 were considered significant.

Results: 202 patients were enrolled in the ST group and 203 in the control group. Age, weight, height and BMI were 62.54, 69.6, 1.60 and 27.1 in the ST group and 58.5, 65.7, 1.59 and 26.83 in the control group respectively (p = 0.000, p = 0.001 p = 0.79, p = 0.38). There were no significant differences in risk factors for OP between groups. The average lumbar BMD was -0.87 for the ST group and -1.76 for the control group (p = 0.000), the average femur neck BMD was -1.15 for the ST group and -1.56 for control (p = 0.000), the total hip BMD was -0.32 for the ST group and -0.74 for the control group (p = 0.001), vitamin D was 25.57 for the ST group and 27.71 (p = 0.120).

Conclusion: ST can improve Bone Mineral Density in postmenopausal women, more studies are needed to confirm these results.

REFERENCES

metabolism were excluded. Statistical analysis included a descriptive study of the variables to assess the association between the incidence of fractures and various risk factors, as well as univariate and multivariate Cox regression analysis.

Results: 128 patients with osteoporosis were studied, of wich 19 (14.7%) suffered an osteoporotic fracture during the follow-up. Bivariate analysis showed in the group of patients with fractures a higher proportion of smoking patients (p = 0.004), osteoporosis treatment (p = 0.005) and a femoral neck t score lower at the beginning of the drug holidays period -2.07 (0.68) vs. -1.58 (0.63), p = 0.008.

In addition, there was a higher proportion of patients with fracture with moderate risk before the start of the drug holidays period (p = 0.007). The fracture survival curves were lower in patients older than 75 years (p = 0.04). When applying the same treatment, for each year increase, the risk of fracture increased by 6% (p = 0.04), whereas for the same age, this risk was increased 4.33 times in patients who were treated with Risedronate versus those with Alendronate (p = 0.05).

The multiple regression analysis showed that vertebral fracture was independently associated with Tabaco (HR 4.28 p = 0.047).

Conclusion: Based on our results, it would be useful to follow closely those patients during drugs holidays period who are smokers, older than 75 years, with osteopening treatment, who present a low femoral neck tscore and/or have been previously treated with Risedronate.

REFERENCES

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COGNITIVE IMPULSIVITY CORRELATES WITH BONE MINERAL DENSITY
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Background: Cognitive impairment is known to be associated with low bone mineral density (BMD) and low levels of BMD have been associated with increased rates of progression from mild cognitive impairment to Alzheimer’s disease and with the onset of episodic verbal learning deficit.

Objectives: The potential involvement of executive functions impairment on BMD is still unclear. The aim of this study was to investigate the association between cognitive impulsivity, BMD and fall risk.

Methods: Cognitive impulsivity was measured by Stroop Color and Word Test (SCWT) administration in a setting of 40 consecutively recruited postmenopausal women referring to a outpatient clinic for the evaluation of fractures risk. SCWT administration was performed by a neuropsychological test able to assess the ability to inhibit cognitive interference: during the administration, women were required to quickly read three different tables of which two represented the “congruous condition” in which participants were invited to read names of colors printed in black ink and name different color patches. In the third table, named “incongruous condition”, color-words were printed in inconsistent color ink (e.g. the word “red” is printed in green ink) and participants were required to name the color of the ink instead of reading the word.

Background: Accumulating evidence has revealed that the risk of osteoporosis related fractures is significantly increased in type 2 diabetes mellitus (T2DM) patients in comparison with healthy controls. Dual X-ray Absorptiometry (DXA) measured bone mineral density (BMD) and hip fractures were also assessed. Bone evaluation was performed by dual-energy X-ray absorptiometry (DXA) densitometer at the lumbar spine (L1-L4) and at the femoral neck; based on specific software, the trabecular bone score (TBS) was calculated. Lateral scan of thoracic and lumbar spine was performed at lumbar spine and femoral site by a DXA densitometer (Hologic Discovery). History of falls in the previous 12 months was recorded.

Results: Cognitive impulsivity, as highlighted by making errors at the SCWT, was significantly associated with lumbar spine and femoral neck T-score (r = -0.39, p = 0.01 and r = -0.43, p = 0.008, respectively). MMSE score was not associated with T-score values, neither at lumbar spine (r = 0.09, p = 0.5) nor at femoral neck (r = 0.2, p = 0.21); differently MMSE score was significantly associated both with Stroop test error (r = -0.34, p = 0.02) and time interferences (r = -0.39, p = 0.01). Furthermore, time interference was positively associated with the self-reported history of falls (r = 0.342, p = 0.031).

Conclusion: Cognitive impulsivity was significantly associated with BMD values and higher prevalence of falls in postmenopausal women. It could be considered as a possible clinical risk factor for osteoporotic fractures.

REFERENCES