Osteoporotic fracture risk in menopausal women with obesity

Popovic-Pejicic Snjezana¹, AksenticVera²

1. Center for diabetes at endocrinology, University hospital, Clinical center, Banja Luka, Republic of Srpska, Bosnia and Herzegovina
2. Institute for Physical Medicine and rehabilitation, Dr Miroslav Zotic, Banja Luka, Republic of Srpska, Bosnia and Herzegovina

Introduction and objectives
Osteoporosis is a metabolic disease that is characterised by low mineral bone density (BMD) and increased risk of fractures. Wight loss reduced BMD and increased risk of hip fractures, while it reduces in a weight gain. Osteoporosis fracture risk and body mass index (BMI) correlate more frequently denied in recent studies. The aim of this study was to examine relationship between BMI and BMD in a group of menopausal women.

Material and Methods
The study involved 100 postmenopausal women aged 46 to 70 years (59.08 ± 6.07). BMD was determined by DXA method (dual energy X-ray absorptiometry) by Lunar Prodigy Advance Unit. BMD was measured at lumbar spine and both hips. BMI values were correlated with total T score values of the lumbar spine and both hips as well as total T score values of spine and hip.

Results

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<th>Table 1: Basic anthropometric parameters</th>
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<td>Spine T score</td>
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<tr>
<td>Mean value</td>
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<td>Standard deviation</td>
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<td>Minimum</td>
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<td>Maximum</td>
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Table 2. Measured values BMD of Spine and Hip
Median lumbar spine T score was -2.19 SD ±1.25 and hip T score -1.11 SD ±0.95.

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<th>Table 3. Figure 1. Classification of subjects respondent to BMI</th>
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<td>Results have shown that BMI was normal in 18 % of subjects and grade obesity was found in 52 %, 2 nd grade obesity in 23 %, 3 rd grade obesity in 7 % of subjects. Median BMI value was found in 28.27 ±4.12.</td>
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Conclusion
In postmenopausal women BMI is more important predictor of hip BMD, as compared to spine BMD. BMD of hip is increased with increase of BMI in postmenopausal women, which indicates that incidence of fracture of the hip decrease in women with obesity.

A lack of correlation between BMI and BMD of spine might be due to predominant effect of lack of estrogen and faster bone metabolism in spinal region.

Literature