

Depression, Obesity, and Elbow Fracture: a Pathogenic Triangle?

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EP 134

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Introduction

Depression and associated medication, especially Selective Serotonin Reuptake Inhibitors, may associate high fracture risk through serotonin (but not only). Obesity has been recently proved to be correlated with a higher fracture risk for a few sites as ankle, elbow, shoulder, etc.

Moreover, depression and some anti-depressants may increase the calories intake and consecutive increased of Body Mass Index (BMI) is registered.

Material & Methods

We present a fragility fracture medical history in a context of depression and obesity as only obvious causes of osteoporosis. The bone profile is analyzed in this case report.

Results

57-year old non-smoking female patient was diagnosed with multi-nodule goiter at age of 49 and total thyroidectomy was performed. Substitution with daily levothyroxine was continued up to present with consecutive normal TSH levels.

Menstruation stopped at 50yrs; she suffered of chronic headache. At age of 53 she was diagnosed with depression and she was offered different types of anti-depressive medication for almost 3 years. At age of 56 she suffered a left elbow fracture and the circumstances of fall indicated an osteoporotic type.

Endocrine check-up was done at that moment. The patient had a BMI of 40 kg/sqm; 25-hydroxyvitamin D assay showed an inadequate level of 20.8ng/mL (N:30-100ng/mL), with normal bone turnover markers: blood CrossLaps of 0.44ng/mL(N:0.226-1.008 ng/mL), blood osteocalcin of 25.71ng/mL(N:15-46 ng/mL), and circulating serotonin of 280ng/mL(N:80-450 ng/mL). Dual-Energy X-Ray Absorptiometry showed lumbar L1-4 Bone Mineral Density (BMD) of 1.049g/sqcm, T-score=-1.1SD, Z-score=-1.4SD. Weekly oral risendronat with daily vitamin D/calcium supplements were followed for 1 year: BMD increased to 1.14g/sqcm, T-score=-0.3SD, Z-score=-0.5SD.

Conclusion

Obesity and depression might associate vitamin D deficiency. Depression and anti-depressants may act on fall risk by attention and gait anomalies. However, both conditions may be not associated relevant BMD changes.

Part of this work is supported by project no. 33878/11.11.2014.