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News on current events in osteoporosis and rheumatology

Mood affects bone mass: low bone mass in premenopausal women with depression

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Major depressive disorder is a common condition and a major cause of disability. Besides mood changes, depression is associated with increased morbidity and non-suicide-related mortality. In addition to poor medical compliance and lifestyle factors, endocrine, immune, and autonomic dysregulation may play a causative role in producing medical illnesses in patients with major depression. An increased prevalence of low bone mineral density (BMD) has been reported in patients with major depressive disorder, mostly women. Moreover, antidepressants such as selective serotonin reuptake inhibitors (SSRIs) may affect bone density and fracture risk per se, depending on the age of patients. The association of major depression disorder and BMD was investigated in a prospective study of bone turnover in which immune, pituitary-adrenal, and sympathetic biomarkers were measured [1]. The authors sought to determine whether premenopausal women with major depression had a higher prevalence of osteopenia and osteoporosis and of lower BMD than did healthy women. Baseline BMD was measured in 89 premenopausal women with major depression and 44 healthy control women enrolled in a prospective study of bone turnover. The BMD was measured by dual energy x-ray absorptiometry at the spine, hip, and forearm. Mean hourly levels of plasma 24-hour cytokines, 24-hour urinary free cortisol, and catecholamine excretion were measured in a subset of women.

The prevalence of low BMD, defined as a T score of less than -1, was greater in women with major depression than in controls at the femoral neck and total hip and tended to be greater at the lumbar spine. The mean±SD BMD was lower in women with depression at the femoral neck and at the lumbar spine and tended to be lower at the radius. Women with major depression had increased mean levels of 24-hour proinflammatory cytokines (IL-1, -2, 6, TNF) and decreased levels of anti-inflammatory cytokines (IL-13).

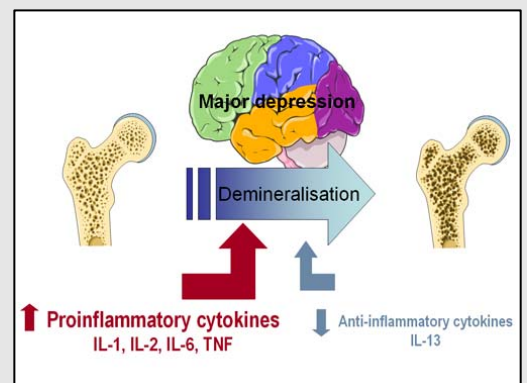
In conclusion, low BMD is more prevalent in premenopausal women with major depression. The BMD deficits are of clinical significance and comparable in magnitude to those resulting from established risk factors for osteoporosis, such as smoking and reduced calcium intake. The possible contribution of immune or inflammatory imbalance to low BMD in premenopausal women with depression remains to be clarified.

1. Eskandari F et al. *Arch Intern Med.* 2007;167:2329-2336.

Major depression is associated with low bone mass

Major depression is an independent factor of bone demineralisation. Low bone mineral density in premenopausal women with severe depressive disorder may result from a marked imbalance between proinflammatory and anti-inflammatory cytokines.

Because severe depression is a common condition, attention should be paid to its impact on bone.



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