Menopausal health: Osteoporosis

Osteoporosis is defined as a skeletal disorder characterized by compromised bone strength predisposing to an increased risk of fracture. Bone strength reflects the integration of two main features: bone density and bone quality.

Clinical risk factors for fracture

- Age
- Sex
- Low body mass index (BMI) (≤ 19 kg/m^2)
- Previous fragility fracture, particularly of the hip, wrist or spine, including morphometric vertebral fracture
- Parental history of hip fracture
- Current glucocorticoid treatment (any dose, by mouth for three months or more)
- Current smoking
- Alcohol intake of three or more units daily

Impact of osteoporosis

- Osteoporosis affects 1 in 3 **women**, compared with 1 in 5 men
- Worldwide, up to 37 million **fragility fractures** occur annually in people aged over 55
- **Hip**, **vertebra** and **wrist** are the main fracture sites
- Fracture risk increases with age
- Most hip fractures are reported in patients aged 80 years or more
- Osteoporotic fractures are associated with **increased mortality**

Secondary causes of osteoporosis

- Rheumatoid arthritis
- Untreated hypogonadism in men and women
- Prolonged immobility
- Organ transplantation
- Type 1 diabetes
- Hyperthyroidism
- Gastrointestinal disease
- Chronic liver disease
- Chronic obstructive pulmonary disease

Bone density is expressed as grams of mineral per area (g/cm^2) and is determined by peak bone mass and amount of bone loss.

Bone metabolism is a continuous process balancing bone resorption and formation.

Further information

FRAX Fracture Risk Assessment Tool https://www.fraxplus.org

International Osteoporosis Foundation https://www.osteoporosis.foundation

WHO (2024). Fragility fractures https://www.who.int/news-room/fact-sheets/detail/fragility-fractures

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