

OSTEOPOROSIS: RECENT ADVANCES

MD. ABU SHAHIN

Professor, Department of Rheumatology, Bangabandhu Sheikh Mujib Medical University, Dhaka, Bangladesh. Email: abushahirh@gmail.com

Osteoporosis is characterized by low bone mass, microarchitectural disruption, and skeletal fragility, resulting in decreased bone strength and an increased risk of fracture. Decreased bone strength is related to many factors in addition to bone mineral density (BMD), including rates of bone turnover, bone geometry, and microarchitecture. Osteoporosis has no clinical manifestations until there is a fracture. Complications of fractures include pain, deformity, disability, and loss of height. A clinical diagnosis of osteoporosis may be made in the presence of a fragility fracture, particularly at the spine, hip, wrist, humerus, rib, and pelvis, without measurement of BMD. In the absence of a fragility fracture, BMD assessment by dual-energy x-ray absorptiometry (DXA) is the standard test to diagnose osteoporosis, according to the classification of the World Health Organization. A DXA T-score ≤ -2.5 is consistent with osteoporosis, whereas a T-score between -1 and -2.5 is osteopenia. All postmenopausal women with osteoporosis should have a history, physical examination, and basic laboratory evaluation. Initial laboratory studies should include a complete blood count (CBC), biochemistry profile, and 25-hydroxyvitamin D (25[OH]D). The need for additional laboratory evaluation depends upon the initial evaluation and Z-score. Women who have abnormalities on initial laboratory testing, suspicious findings on history and physical examination suggesting a secondary cause of osteoporosis, or Z-scores ≤ -2 may require additional evaluation for these secondary causes. Lifestyle measures should be adopted universally to reduce bone loss in postmenopausal women. Lifestyle measures include adequate calcium and vitamin D, exercise, smoking cessation, counseling on fall prevention, and avoidance of heavy alcohol use. In general, 1200 mg of elemental calcium daily, total diet plus supplement, and 800 international units of vitamin D daily are advised. Many patients require vitamin D supplementation as it is difficult to achieve goals with diet alone. Postmenopausal women with established osteoporosis (T-score ≤ -2.5) or fragility fracture be treated with a pharmacologic agent. For the treatment of high-risk postmenopausal women with T-scores between -1.0 and -2.5, better to start pharmacologic therapy. Most women, for the initial treatment oral bisphosphonates is good choice. For severe osteoporosis, some experts prefer initial treatment with an anabolic agent, whereas other experts prefer initial treatment with bisphosphonates. Teriparatide and abaloparatide are good anabolic agent. Romosozumab is an alternative.

Keywords: Osteoporosis, bone mineral density

Date of received: 29.03.2023

Date of acceptance: 05.05.2023

DOI: <https://doi.org/10.3329/bjm.v34i20.66141>

Citation: Shahin MA. Osteoporosis: Recent Advances. *Bangladesh J Medicine* 2023; Vol. 34, No. 2(1) Suppl. 194.