



HOMOEOPATHIC PERSPECTIVES ON POSTMENOPAUSAL OSTEOPOROSIS: EMPHASIS ON INDIVIDUALIZED MEDICINE AND CALCAREA PHOSPHORICA 12X

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Abstract : Postmenopausal osteoporosis is a prevalent metabolic bone disorder characterized by decreased bone mass, deterioration of bone microarchitecture, and an increased risk of fragility fractures. Estrogen deficiency following menopause accelerates bone resorption and disrupts the balance between osteoclastic and osteoblastic activity. Diagnosis and assessment primarily rely on Bone Mineral Density (BMD) measurement using Dual-Energy X-ray Absorptiometry (DEXA) and interpretation through T-score, supported by screening tools such as the Osteoporosis Self-Assessment Tool (OST). Conventional management includes pharmacological agents that may pose long-term safety and compliance challenges. Homoeopathy offers a holistic and individualized approach, addressing constitutional susceptibility, metabolic imbalance, and impaired mineral assimilation.

IndexTerms - Postmenopausal osteoporosis; Homoeopathy; Individualized homoeopathic medicine; Calcarea Phosphorica 12X; T-score; Bone mineral density.

Introduction

Osteoporosis is a systemic skeletal disorder marked by decreased bone strength, predisposing individuals to an increased risk of fractures. Postmenopausal osteoporosis is the most common form, resulting primarily from estrogen deficiency after menopause. The condition often remains asymptomatic until fractures occur, commonly involving the vertebrae, hip, and distal radius, leading to significant morbidity, mortality, and reduced quality of life. With increasing life expectancy, the burden of osteoporosis is rising globally, particularly among postmenopausal women. Objective diagnostic tools such as T-score have enhanced the assessment of disease severity and treatment outcomes. Growing concerns regarding long-term pharmacotherapy have led to increased interest in complementary systems such as homoeopathy, which emphasizes individualized and holistic management.^{1, 2}

Definition

Osteoporosis is defined as a reduction in the strength of bone that leads to an increased risk of fractures. Loss of bone tissue causes deterioration in skeletal microarchitecture, and bone loss produces a greater reduction in bone strength than might be inferred from bone density measurements alone.¹

Epidemiology

A retrospective cross-sectional study published in 2026 shows Gender-wise prevalence was 17.2% in males and 19.6% in females, while among postmenopausal women (≥ 50 years), the prevalence was markedly higher at 33.3%, highlighting their increased vulnerability to bone loss.³ A hospital-based cross-sectional study published in January 2026 among 539 postmenopausal Indian women reported an osteoporosis prevalence of 37.5% based on DEXA assessment. Overall, 82.2% of the participants had low bone mass (osteopenia + osteoporosis), indicating a very high burden of skeletal fragility among postmenopausal Indian women.⁴

Risk Factors

1) Non-modifiable Risk Factors Advancing age

Female gender

Family history of osteoporosis or fragility fractures^{5,6}

2) Modifiable Risk Factors Estrogen deficiency

Inadequate calcium and vitamin D intake

Sedentary lifestyle

Smoking and excessive alcohol consumption Long-term use of steroids and anticonvulsants^{5,6}

Etiology

Postmenopausal osteoporosis primarily arises due to estrogen deficiency, which accelerates bone resorption and suppresses bone formation. Additional etiological factors include advancing age, genetic predisposition, nutritional deficiencies (calcium and vitamin D), sedentary lifestyle, and prolonged use of medications such as glucocorticoids.^{2,6}

Pathophysiology

Osteoporosis develops due to an imbalance in bone remodeling, wherein osteoclastic bone resorption exceeds osteoblastic bone formation. Estrogen deficiency increases the expression of RANKL and pro-inflammatory cytokines such as IL-1, IL-6, and TNF- α , enhancing osteoclast differentiation and activity. Concurrently, osteoblast survival and function decline, leading to progressive bone loss, particularly in trabecular bone.^{5,6,7}

Clinical Features

Postmenopausal osteoporosis is often asymptomatic until fractures occur. Common clinical features include:

Fragility fractures of the spine, hip, and wrist

Acute or chronic back pain

Loss of height: Kyphosis and stooped posture

Reduced mobility Physical activity^{8,9}

Osteoporosis Self-Assessment Tool (OST)

OST is a simple screening tool used to identify individuals at risk of osteoporosis. It is calculated using the formula:

OST score = (Body weight in kg – Age in years) $\times$ 0.2

Scores ≤ -4 indicate high risk and warrant further evaluation with DEXA scanning.¹⁰

Investigations

The primary investigation for osteoporosis is BMD measurement using DEXA scan. Additional investigations include serum calcium, phosphate, alkaline phosphatase, vitamin D levels, renal and thyroid function tests to rule out secondary causes.⁶

T-Score

T-score compares an individual's BMD with that of a healthy young adult. According to WHO criteria: Normal: T-score ≥ -1.0 Osteopenia : T-score between -1.0 and -2.5 Osteoporosis: T-score ≤ -2.5 Severe Osteoporosis: T-score ≤ -2.5 + Fracture
T-score is the gold standard parameter for diagnosis and monitoring treatment response.¹¹

Diagnosis

Diagnosis of postmenopausal osteoporosis is based on clinical evaluation, BMD assessment using DEXA scan, and interpretation of T-score. Screening tools such as OST aid in early identification of high-risk individuals.¹⁰

Differential Diagnosis

Osteomalacia
Hyperparathyroidism
Rheumatoid arthritis
Chronic kidney disease-related bone disorders^{3,6,7}

Complications

Major complications include vertebral compression fractures, hip fractures, chronic pain, postural deformities, reduced mobility, and increased mortality.^{1,3,6,7}

Homoeopathic Medicines and Their Indications

Individualized homoeopathic medicine addresses the constitutional and holistic aspects of a patient by matching their physical, mental, and emotional symptoms with a remedy (similimum). Homoeopathy approaches osteoporosis as manifestation of systemic imbalance and impaired mineral assimilation. Individualized treatment based on totality of symptoms is emphasized.

Calcarea Carbonica: Indicated in individuals with defective calcium metabolism, weak bones, spinal deformities, obesity, and chilliness. Fair, flabby, fat constitution. Sweats easily (especially head). Craves eggs, indigestible things. Anxiety about health. Fear of insanity or misfortune. Chilly patient^{12,13}

Calcarea Phosphorica: Useful in brittle bones, delayed fracture healing, and bone weakness due to nutritional deficiency. Worse from cold, damp weather. Worse during change of weather. Better from warmth. Weakness after menopause. Emaciation rather than obesity.^{12,13}

Calcarea Fluorica: Indicated in hard, brittle bones, exostoses, and chronic degenerative bone diseases. Deep, boring bone pains. Relaxed tissues. Tendency to prolapse. Stony hardness of glands. Indurated swellings. Varicose veins. Elastic fibre weakness. Worse from cold, damp, rest. Better from warmth and continued motion.^{12,14}

Phosphorus: Fear of being alone. Anxiety in twilight. Sympathetic, sensitive, impressionable. Desires company. Fear of death. Suited to tall, lean individuals with fragile bones and degenerative tendencies. Caries of bones.

Necrosis. Osteoporosis with fragility. Rapid emaciation. Trembling. Exhaustion from slight exertion. Sensation of heat in spine. Burning between scapulae. Easy bleeding. Softening and fragility of bones. Worse from cold. Worse from twilight. Worse lying on left side. Worse mental exertion. Better from cold drinks (though vomited when warm in stomach).^{14,15}

Silicea: Timid. Lacks confidence. Fixed ideas. Obstinate but yielding. Sensitive to criticism. Thin, fine texture. Delicate children or adults. Chilly; desires warm clothing. Slow, defective assimilation. Useful in defective nutrition, delayed healing, and chronic bone weakness. Bones fragile. Softening of bones. Delayed healing. Chronic degenerative states. Worse at night. Worse from cold. Better from warmth.^{12,15}

Symphytum Officinale: Pricking pain and soreness of periosteum. Sharp, stitching pains. Worse from touch and motion. Pain in occiput, top and forehead; changing places. Trauma-induced bone pathology. Promotes callus formation and bone repair following fractures.^{12,14}

Biochemic Medicine: Calcarea Phosphorica 12X

Calcarea Phosphorica is a key tissue salt essential for bone formation and repair. Literature describes its role in enhancing calcium assimilation, supporting osteoblastic activity, and maintaining bone strength. The 12X potency is considered safe, non-toxic, and suitable for long-term use in postmenopausal women with osteoporosis.¹⁶

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