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FACULTY OF NURSING



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OSTEOPOROSIS

**Mr. M.Raghavendran M.Sc(N)
Professor
MSN Dept**

OSTEOPOROSIS

Osteoporosis or porous bone (fragile bone disease) is a chronic progressive metabolic bone disease characterized by low bone mass and structural deterioration of bone tissue leading to increased bone fragility.

Cont...

It is 8 times more common in women than in men because

- They have lower calcium intake
- They have less bone mass
- Bone absorption begins at an earlier age in women
- Pregnancy and breastfeeding may deplete a woman's skeletal reserve unless calcium intake is adequate

Risk factors

Advanced Age, Female Gender, Family History, Low calcium diet, White or Asian Ethnicity, Excessive Use of Alcohol, Cigarette Smoking, Inactive Life style, Long term Use of Steroids, Heparin, Thyroid Replacement, Post-Menopausal, Excessive Caffeine use, Low Testosterone levels.

Pathophysiology

Bone is continually being deposited by osteoblasts and reabsorbed by osteoclasts a process called remodeling. Normally the rates of bone deposition and reabsorption are equal to each other. In osteoporosis bone reabsorption exceeds bone deposition. Over time wedging and fractures of vertebrae produce gradual loss of height and humped back known as 'Dowager's Hump' or 'Kyphosis'

Clinical Manifestations

Is often called silent disease because bone loss occurs without symptoms people may not know they have osteoporosis until their bone become so weak that a sudden strain or fall may cause hip, vertebral or wrist fractures, Back pain, loss of height or Spinal Deformities.

Diagnostic studies

History Collection, Physical Examination, Serum Calcium, Serum Phosphorus, Alkaline phosphatase, Vitamin D level, Bio-mineral Densitometry, Dual energy X ray absorptiometry, ultra sound.

Management

Diet high in Calcium, Calcium and Vitamin D supplements, Exercise Programme, Estrogen Replacement Therapy, Calcitonin and Bisphosphonates

Bisphosphonates *eg:* etidronate, panidronate these things will inhibit osteoclasts mediated bone reabsorption there by increasing BMD and Total Bone Mass