



Osteoporosis: An Issue of Bone Strength

(World Osteoporosis Day Special Editorial)

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It has been a privilege and an honour to write this editorial on the occasion of "World Osteoporosis Day". I would like to thank the editorial team for giving me an opportunity to do so.

The World Osteoporosis Day is celebrated on the 20th of October each year. Osteoporosis is a disease in which bones become fragile and are more likely to break (fracture). It is estimated that about half of all Indian women over the age of 50 will face a problem of osteoporosis with spine fractures being the most common.¹ During one's lifetime, the body continues to both resorb old bone and create new bone. As long as one's body has a good balance of new and old bone, his/her bones shall stay healthy and strong, and once the loss of old bone overcomes the formation of new bone and/or if equilibrium between formation and resorption (bone remodelling) is disturbed, the bones become weak and fragile as seen in osteoporosis.

The causes of osteoporosis include vitamin D deficiency, gastric bypass surgery, hormonal imbalance as age advances, prolonged illness leading to increased levels of pro-inflammatory cytokines in the body which ultimately affects bone remodelling, family history of osteoporosis, drinking large amounts of alcohol, low body weight, smoking and eating inadequate food or under nutritious diet.²

There are no symptoms in the early stage of osteoporosis. Many times, people will have a fracture before learning they have the disease. Osteoarthritis is also one of the earlier symptom before the major complications of osteoporosis arise.

Many different diagnostic methods are available to check for bone density i.e bone density scan, CT bone, routine traditional radiography and DEXA scan. Among all the methods DEXA scan with its low dose radiation benefits the most with better

accuracy. Early detection with better accuracy is the need for the treatment of osteoporosis.

Treatment of Osteoporosis includes:

- Making lifestyle changes, such as changing your diet and exercise routine
- Taking calcium and vitamin D supplements
- Bisphosphonates (the main drugs used to prevent and treat osteoporosis in postmenopausal women)
- Estrogen and estrogen receptor modulators
- Teriparatide (a man-made form of a hormone that increases bone density)
- Calcitonin/Denusomab (lessens bone loss and increases bone density)

Exercise also plays a key role in preserving bone density in older adults. Some of the exercises recommended to reduce your chance of a fracture include weight-bearing exercises such as walking, jogging, playing tennis, dancing, free weights, weight machines, stretch bands, Balance exercises such as tai chi and yoga and Rowing machines.

Guidelines for getting enough calcium and vitamin D:

- Natural sources are the most beneficial which include exposure to sun light, intake of cheese, butter, margarine, fortified milk, fish chicken, mutton and fortified cereals.
- Adults under age 50 should have 1,000 mg of calcium and 400 to 800 International Units (IU) of vitamin D daily.
- Women aged 51 to 70 years should have 1,200 mg of calcium and 400 to 800 IU of vitamin D daily.
- Men aged 51 to 70 years should have 1,000 mg of calcium and 400 to 800 IU of vitamin D daily.
- Adults over age 70 should have 1,200 mg of calcium and 800 IU of vitamin D daily.

It is advised that both males and especially females follow a diet that provides the proper amount of

calcium and vitamin D. To prevent osteoporosis, it is better to remember the quote “*Prevention is better than cure*”.

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