

Overview on Prevention and Management of Osteoporosis in Menopause

*B.R. Sumangala**

Department of Obstetrics and Gynaecological Nursing, SDM Institute of Nursing Sciences, Sattur, Dharwad, Karnataka, India

ABSTRACT

Menopause (the natural end of menstruation that generally happens between the ages of 45 and 55) can growth a woman's risk of developing osteoporosis, a state in which bones develop thin and may fracture easily. The drop in estrogen levels that develops around the time of menopause results in increased bone loss. It is assessed that, on average, women drop up to 10 per cent of their bone figure in the first five years after menopause. To reduce the risk of osteoporosis, eat a diet rich in calcium and do regular weight-bearing exercise. Although prevention is best, remedial actions are available for osteoporosis organization.

Keywords: bone, estrogen, hormone, menstruation, women

***Corresponding Author**

E-mail: sumangalakudari2010@gmail.com

INTRODUCTION

Menopause is defined as the point when menstrual cycles permanently cease due to the natural depletion of ovarian oocytes from aging. The diagnosis is commonly made retrospectively after the woman has missed menses for 12 consecutive months. It marks the permanent end of fertility and the average age of menopause is 51 years [1, 2]. Osteoporosis is a disease that weakens bones, increasing risk of sudden and unexpected fractures. Actually meaning "porous bone," it results in an increased loss of bone mass and strength. The disease usual progresses without any symptoms or pain. Usually, osteoporosis is not exposed until faded bones cause aching fractures (bone smashing), often in the back (causing long-lasting back pain) or hips. Unfortunately, once osteoporotic fracture occurs, it leads to have high risk of having other fractures. These fractures can be debilitating. Favorably, there are steps that can prevent osteoporosis from ever occurring. Treatments can also slow

the rate of bone loss if you have osteoporosis [3].

Osteoporosis Related to Menopause

There is a straight relationship between the absence of estrogen after menopause and the growth of osteoporosis. After menopause, bone resorption (breakdown) passes the building of original bone. Early menopause (before age 45) and any long phases in which the woman has low hormonal levels or infrequent menstrual periods can cause loss of bone mass. Peak bone mass is stretched around the age of 25 to 30 years, when the skeleton has stationary increasing and bones are at their toughest and heaviest. The female hormone estrogen plays an important role in maintaining bone strength. Estrogen levels drop during menopause, at around the age of 50 years, resulting in increased bone loss. If a woman's peak bones mass before menopause is less than perfect, any bone loss that happens during menopause may outcome in osteoporosis. Research suggests that about half of all women over

the age of 60 years will experience at least one fracture due to osteoporosis [4].

Risk Factors for Osteoporosis

- Age. After extreme bone compactness and strength is touched (generally around age 30), bone mass commences to certainly weakening with age.
- Gender. Women above the age of 50 have the greatest risk of developing osteoporosis. Indeed, women are four times more likely develop osteoporosis than men. Women's lighter, thinner bones and lifetime explanation for some of the explanations why they are at a developed danger for osteoporosis.
- Ethnicity. Research has shown that there are more chances to develop osteoporosis in Caucasian and Asian women. Additionally, hip breakages are twice as possible to occur in Caucasian women as in African-American women. However, women of tint who breakage their hips have an advanced mortality [5].
- Bone structure and body weight. Thin and Petite women have greater risk of osteoporosis in part because they have less bone to lose than women with more body weight and larger frames. Likewise, small-boned, thin men are at better risk than men with greater surrounds and more figure weight [6].
- Family history. Heredity is one of the most vital risk factors for osteoporosis. If your parents or grandparents have had any signs of osteoporosis, such as a fractured hip after a minor fall, you may be at greater risk of developing the disease.
- Prior history of fracture/bone breakage.
- Certain medications. The use of certain medications, such as the long term use of steroids (like prednisone) can also increase the risk of developing osteoporosis.
- Some medical conditions: Some diseases including cancer and stroke

may increase your risk for osteoporosis [7].

Symptoms

Osteoporosis is often called a "silent disease" because initially loss occurs without symptoms. People are unable to recognize osteoporosis until their bones become so weak that a sudden strain, bump, or fall causes a fracture or a vertebra to collapse. Misshapen vertebrae may originally be felt or seen in the form of simple back pain, damage of height, or spinal irregularities such as curved carriage [8].

Prevention of Osteoporosis in Early Menopause

Exercise

Establish a regular exercise program. Exercise styles bones and muscles tougher and benefits stop bone loss. It also supports to break lively and mobile. The best way to prevent osteoporosis is the Weight-bearing exercises, done at least three to four times a week. Walking, jogging, playing tennis, and dancing are all good weight-bearing exercises. In addition, strength and balance exercises may help to avoid falls, decreasing chances of breaking a bone [9].

Eat Foods High in Calcium

By getting adequate calcium throughout your life span will help to keep bones strong. The U.S. suggested daily payment (RDA) of calcium for adults with a low-to-average risk of emerging osteoporosis is 1,000 mg (milligrams) each day. For those at high risk of developing osteoporosis, such as postmenopausal women the RDA increases up to 1,200 mg each day. Outstanding foundations of calcium are milk and dairy foodstuffs (low-fat versions are suggested), preserved fish with bones like salmon and sardines, dark green leafy vegetables, such as kale, collards and broccoli, calcium-fortified orange juice,

and breads made with calcium-fortified flour.

Supplements

Good Forms of calcium supplements are Calcium carbonate and calcium citrate. Be cautious not to get more than 2,000 mg of calcium a day if you are 51 or older. Younger adults can tolerate up to 2500 mg a day but check with your doctor. Inadequate usage can increase the chance of developing kidney stones.

Vitamin D

Your body uses vitamin D to absorb calcium. Being out in the sun for 20 minutes (in total) every day will help people's bodies to make enough vitamin D. Vitamin D can also be taken from eggs, fatty fish like salmon, cereal and milk fortified with vitamin D, as well as from supplements. People between the age of 51 to 70 should have 600 IU daily. More than 4,000 IU of vitamin D each day is not recommended. Talk to your doctor to see how much is right for you because it may harm your kidneys and even lower bone mass [10].

Medications

Most of the bisphosphonates that are taken by mouth as well as raloxifene (Evista) can be given to help prevent osteoporosis in people who are at high risk for fractures [11].

Estrogen

Estrogen, a hormone shaped by the ovaries, helps defend against bone loss. It is used as conduct for the anticipation of osteoporosis. Replacing estrogen lost after menopause (when the ovaries stop most of their production of estrogen) slows bone loss and improves the body's absorption and retention of calcium. But, because estrogen rehabilitation transfers risks, it is only suggested for women at high risk for osteoporosis and/or severe menopausal indications. To learn more, talk to your

doctor about the pros and cons of estrogen therapy [12].

Know the High Risk Medications

Steroids, some breast cancer actions (such as aromatase inhibitors), drugs used to treat appropriations (anticonvulsants), blood solvents (anticoagulants), and thyroid medicines can growth the amount of bone loss. If you are taking any of these drugs, discuss with your doctor to reduce your risk of bone loss through diet, lifestyle changes and, possibly, additional medication.

Other Preventive Steps

Limit alcohol consumption and do not smoke. Smoking sources body to kind less estrogen, which defends the bones. Too much alcohol can harm your bones and rise the risk of dropping and flouting a bone [13].

Treatment

- Medications such as alendronate (Binosto, Fosamax), Ibandronate (Boniva), raloxifene (Evista), risedronate (Actonel, Atevia), and zoledronic Acid-Water (Reclast, Zometa)
- Calcium and vitamin D supplements.
- Weight-bearing exercises (which make your muscles work against gravity).
- Injectable Abaloparatide (Tymlos), Teriparatide (Forteo) or PTH to rebuild bone.
- Injectable denosumab (Prolia, X) for women at high risk of fracture when other drugs do not work [14].

CONCLUSION

Fracture risk increases progressively with ageing, osteoporosis and its consequences will be an even more important clinical problem as our population ages. We have effective tools for stratifying women into categories of fracture risk, and we have treatments that decrease the incidence of

fractures in appropriate groups of patients. The challenge facing clinicians is to use these new tools most effectively and efficiently. Combining clinical risk factors with bone density testing is necessary to assess fracture risk. Current evidence clearly suggests that treating women at high risk for fracture is efficacious, while the indication and utility of using pharmacological agents to treat low-risk patients is much less clear. Because fractures of the spine and especially the hip occur most frequently in elderly women the evaluation and especially the treatment of osteoporosis should be targeted to older post-menopausal women.

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