Brief Communication

Postmenopausal osteoporosis: Our experience

R. N. Mehrotra, Alok Ranjan, Rahul Lath, Ratnam R.

Department of Endocrinology, Neursosurgery, Apollo Hospital, Jubilee Hills, Hyderabad, AP, India

ABSTRACT

Introduction: There is very little published literature about experience with osteoporosis treatment from our country. **Materials and Methods:** It is a retrospective analysis of first 50 patients enrolled in our clinic for osteoporosis. Postmenopausal women with T score of less than -2.5 or history suggestive fragility fracture with supportive bone mineral density (BMD) were included. Patients having hypercalcemia, abnormal renal function, myeloma and on long-term steroids were also excluded. **Results:** Nearly 34% subjects were below the age of 60 years, 47% of subjects were between 60 and 70 years, whereas 18% were above 70 years. Nearly 6% had family history of osteoporosis s or history of osteoporotic fractures. Nearly 20% subjects had fracture prior to starting of any treatment. A total of 86% (40/46) had evidence of Vitamin D (VD) deficiency. Nearly 80% of patients were treated with bisphosphonates, 12% were treated with injectable bisphosphonates, and 8% were treated with teriperatide. Nearly 16% patients had duration of more than 5 years of experience with bisphosphonates. Follow up BMD was available in 25 subjects. BMD had improved significantly in 68% of subjects. In 24% the BMD was stable (the change was less than least significant change (LSC)). In 8% BMD had shown a significant decline while being on treatment. **Conclusion:** Postmenopausal osteoporosis occurs in relatively younger women in our country. Majority of them are VD deficient. Oral bisphosphonates is the most common used drug; it is fairly well tolerated and effective.

Key words: Post menopausal osteoporosis, bone mineral density, bisphosphonates

Introduction

Postmenopausal osteoporosis (PMO) is defined as a generalized skeletal disorder in which because of decreased bone density or deteriorating bone quality there is increased risk of fracture. The bone turnover is increased in early peri menopausal period leading to a net bone loss. The Vitamin D (VD) deficiency and poor calcium intake will also accelerate the peri menopausal bone loss and impair the response to therapeutic intervention.

There is very little data on the incidence of osteoporosis in India. Indirect estimates suggest that some 25 million people are osteoporotic and further 25 million are having low bone mass. In India, women enter menopause a decade earlier then their Western counterparts and osteoporotic fracture occur 10–20 years earlier than West.[1] VD deficiency during adolescence will also predispose to decreased peak bone mass in adult Indian women.

Diagnosis still remains a challenge as Dual X Ray Absorptiometry (DXA) machines are located in metros. Most of the women undergo DXA after they already sustained a fracture.

Strategies for treatment of PMO:

1. Prevention of fall – exercise to improve balance and muscle power, review of medications, making home, and surrounding more safe.
2. Adequate calcium (1–1.5 g of elemental calcium), VD of 2000 units/day.

The drugs available in India for treatment of osteoporosis are:

1. Antiresorptives - Alandronate, Risedronate, Ibandronate, Injectable Zolendronic acid 5 mg, and Ibandronate 3 mg are approved therapeutic options. Calcitonin, Raloxifene, and Estrogen are also options but they have limited utility.

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Corresponding Author: Dr. Mehrotra RN, Department of Endocrinoloy and Diabetes, Apollo Hospital, J Hills, Hyderabad, Andhra Pradesh, India. E-mail: mehrotrarn1@gmail.com

2. Anabolic Agents: Teriperatide.

The important question is:

1. Who needs treatment? Indian women have lower measured BMD as compared with Caucasian women because of small bone size. The development of normative data of BMD in Indian women is in preliminary stages.[2] Therefore, assessment of fracture risk is very important as many women will meet the BMD criteria for initiating drug treatment. More important is to understand that as they have relatively early menopause, the options would be exhausted by the time Indian Postmenopausal women touches 60–65 years. Fracture risk assessment (FRAX) is a good tool to assess fracture risk. (It has its pro and cons) but main problem, India is not in the FRAX list.[3] In the absence of a FRAX model for a particular country, it has been suggested to use a surrogate country for which the epidemiology of osteoporosis most closely approximates the index country. NOF recommends that FDA-approved medical therapies be considered in postmenopausal women and mean age 50 years and older with
   a. Hip or vertebral (clinical or morphometric) fracture
   b. T-score $\leq \pm 2.5$ at the spine or hip
   c. Ten-year fracture probability by FRAX® $\geq$ 3% for hip fracture or $\geq$ 20% for major osteoporotic fracture.
2. How to monitor DXA or Bone turnover markers?
3. How long to treat? If on bisphosphonates – when to take drug holiday? What should be the duration of drug holiday? How to monitor the patient during drug holiday?

These questions do not have any definite answers, the clinician is being faced with these dilemmas more often in clinical practice.[4] There is urgent need for long-term studies from our country in postmenopausal women suffering with osteoporosis.

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