

Osteoporosis: An Ayurvedic Viewpoint

Indumati Sharma and Virendra Singh

Associate Professor and PG Scholar
PG Department of Kayachikitsa
M.M.M. Government Ayurvedic College, Udaipur (Rajasthan)
e-mail: virendra.p19@gmail.com

Abstract

Osteoporosis, which literally means porous bone, is a disease in which the density and quality of bone are reduced. As the bones become more porous and fragile, the risk of fracture is greatly increased. The loss of bone occurs silently and progressively. Often there are no symptoms until the first fracture occurs. Osteopenia/Osteoporosis is a burning global problem which affects older population in both developed and developing countries. The alarming fact is that by 2050, more than 50% of all osteoporotic fractures will occur in Asia. In India, Osteoporosis is emerging as an important public health problem with increasing number of elderly people. Allopathic management fails to provide satisfactory results both in the preventive and curative aspects. The present paper discusses the potentials and contribution of Ayurveda in prevention and management of Osteoporosis in present scenario.

Key Words : Osteoporosi , Asthisoushirya, Asthi Majjagathavatha, Asthikshay

Introduction

Osteoporosis is a growing public health problem worldwide. It is the “ Silent thief” which is often unrecognized until fracture. With a predicted dramatic increase of the older population in both developed and developing countries, the numbers of those with osteoporosis and suffering fractures is set to increase dramatically. Osteoporosis is defined as asystemic skeletal disease characterized by low bone mass and micro architectural deterioration of bone tissue with a consequent increase in bone fragility and susceptibility to fracture. The lifetime risk for an osteoporotic fracture is 30-50% in women and 15-30% in men.

Both bone formation and resorption are governed by complex interactions of genetic, environmental, nutritional, hormonal, age-related and lifestyle factors. Bones grow in size during the first two decades of life, with acceleration during adolescence, followed by a period of consolidation. Bone mass subsequently declines with ageing. This is a universal phenomenon, occurring in both sex and in all races. At all ages, women have less bone mass than do men. With ageing this difference becomes more pronounced. It is stated by International Osteoporosis Foundation that one out of 8 males and one out of 3 females in India suffer from Osteoporosis, making India one of the largest affected countries in the world. The increased

prevalence of artificial and premature menopause accelerates osteoporotic changes in women.

Osteoporosis is somewhat similar to high blood pressure . For instance, if somebody has high blood pressure, he or she may not know it because people rarely experience any symptoms from an elevated blood pressure. Untreated hypertension causes damage to blood vessels and may end up in stroke, CVA etc. over many years. Similarly, when somebody develops a fracture from osteoporosis, it's likely that he or she might have the problem for years. World Health Organization has declared the decade 2000-2010 as the “Bone and Joint Decade.” Government of India under the department of AYUSH, has also included Osteoporosis in its “Golden Triangle Partnership Programme.

Even though now people are more health conscious and undergoing routine check- ups which include monitoring of Blood Pressure, Sugar, Lipid Profiles, Liver and Kidney function tests, it miss the tests to assess the health status of bone. Common man and even medical professionals are least bothered about it. So Osteopenia/Osteoporosis is often diagnosed at the most devastating stage. Number of researches conducted over Osteoporosis is less while comparing to diseases like Diabetes Mellitus, Cardiovascular Diseases, Stroke etc. ‘ Prevention is better than Cure’ should be the main point to be remembered while treating Osteoporosis. Early detection and prevention of fractures is the vital step in treating Osteoporosis.

Modern medical science is not able to provide satisfactory relief for this condition and allopathic management produces undesired complications too. It can do nothing with preventive aspect especially. Ayurveda has immense potential in the treatment of *dhatugatavyadhi* like Osteoporosis. A lot of work have been carried out and the results are promising but documentation of the studies are not proper.

Osteoporotic fractures

Around the world, one in three women and one in five men are at risk of an osteoporotic fracture. In fact, an osteoporotic fracture is estimated to occur every three seconds. The most common fractures associated with osteoporosis occur at the hip, spine and wrist. The likelihood of these fractures occurring particularly at the hip and spine, increases with age in both women and men. Of particular concern are vertebral (spinal) and hip fractures. Vertebral fractures may result in serious consequences, including loss of height, intense back pain and deformity (sometimes called Dowager's Hump). A hip fracture often requires surgery and may result in loss of independence or death.

Causes of Osteoporosis

As per medical and health experts, most cases of osteoporosis are caused due to ageing, body weight, lack of sex hormones after menopause, excessive smoking or drinking and reactions from certain medicines.

Basically, bones, being a living tissue, constantly keep on evolving through formation of new bone tissues and bone resorption takes place. However, when these two major functions suffer from imbalance, bones eventually undergo thinning and experience a loss in bone density.

If people in any family have been affected by osteoporosis, it is more likely to inherit the disease by the next generations.

Diagnosis

Men and women over 60-years-old are at higher risk of osteoporosis than younger people. Nevertheless, it is possible to have osteopenia (low bone mass) or osteoporosis at a much earlier age. As osteoporosis has no obvious symptoms, it is important to go to the doctor if any risk factors apply to the person. By making positive lifestyle changes and following appropriate treatment strategies in consultation with a doctor, osteoporotic fractures can be prevented. Doctor will go thorough medical history that includes

information on any recent fractures and may go for a bone mineral density (BMD) test.

World Health Organization has defined a number of threshold values (measurements) for osteoporosis. The reference measurement is derived from bone density measurements in a population of healthy young adults (called a T-score). Osteoporosis is diagnosed when a person's BMD is equal to or more than 2.5 standard deviation below this reference measurement.

Osteopenia is diagnosed when the measurement is between 1 and 2.5 standard deviation below the young adult reference measurement.

BMD TEST

Normal	T-score of -1 or above
Osteopenia	T-score lower than -1 and greater than -2.5
Osteoporosis	T-score of -2.5 or lower
Severe osteoporosis	T-score of -2.5 or lower, and presence of at least one fragility fracture

Ayurvedic Treatment and Management Approach

Increase in life expectancy and following faulty lifestyle – unwholesome food and sedentary life – are the culprits behind the increased prevalence of Osteoporosis. The first factor is non-modifiable and the disease itself is Swabhava bala pravrittijanya vyadhi. Hence, utmost care should be given to modify the second factor – through proper following of Dinacharya and Ritucharya to fight against the dreadful disease.

Vatadosha and Asthimajjadhatu are the basic stones of samprapti. This condition may occur due to both Santharpana and Apatharpana. Apatharpana directly causes Vatavidhi, while santharpana leads to srotorodhaandavarana which in turn causes vatavidhi. There is less chance for Asthimajjadushti to occur alone without the involvement of other dhatus. So, Rasa Rakta, Mamsa and Medodhatu may also be involved in the samprapti. Therefore, treatment should start from the level of Jadaragni and Dhatwagni. Updated signs and symptoms of Osteoporosis as per the available literature are exactly similar to the lakshanas of Asthimajjakshaya. Asthitoda, Danthakeshanaghashatanam are the features of Asthikshaya. Majjakshaya shows Asthisoushira, Bhramaand Timiradarshana. Asthigathavatha is having the features like Sakthisandhiasthisoola, Teevralakshaya and Majjagathavatha shows Asthisoushiryam, Aswapna, Sthabdhatu and Ruja.(1) The first stage of the

disease can be considered as Asthikshaya or Asthigathavatha, which is mainly characterised by different kinds of pain and deformities of upadhatu and malas of Asthiie. Dantha, Nagha ,Kesha etc. When the disease progresses, as per the principles of Anulomakshaya, it will affect majjadhatu and manifest as Asthisoushrya , which may lead to Bhagna in the later stage. So it is better to compare Osteopenia with Asthikshaya or Asthigathavatha and Osteoporosis with Majjakshaya or Majjagathavatha.

While considering Asthikshaya , prevention should be the first step. Aharadravyas having madhura, guru, snigdha, ushnagunas which are Vatadoshashamaka and Asthimajjaposhaka have to be included more in diet. Swadutikta rasa pradhanadravyas, ksheera,ghrita etc. have specific action on Asthi Majja Dhatu.(2) As per the recommendations of WHO, daily Calcium and Vitamin D requirements are more for adolescents, pregnant ladies and old age people especially for peri-post menopausal ladies. Tilam, Shimbeedhanyam, ksheeram, ghrita, shatavari, kharjoora, vaataada, kukkutaanda, matsya, Asthibaddhamamsa, mamsarasa etc. should be included in diet. Excessive Katuamlalavana rasa, laghurookshasheetaahasas like fried spicy items, bread, biscuits, soft drinks etc. should be avoided. Utmost care should be given for the Asthisamrakshana of Soothika as garbhakaala and prasava cause vataprakopa and Asthikshaya. Similarly, Bhagna rogi should be provided with Asthimajjaposhakadravyas, along with bhagna management.

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Abhyanga, Vyayama, Athapaseva etc. should be included in daily routine for promoting bone health. Dantadhavana and Tailagandusha will help to maintain dental hygiene and health. Shiroabhyanga will prevent excessive hair fall and greying. Ushnajalasnana is vatashamaka and balavardhana.

Yoga for Osteoporosis

When it comes to problems like osteoporosis, exercise may sound like a stressful option. Most people think that any sort of movement or stress on bones may cause them to crack. However, Ayurvedic treatment encourages practices like mild yoga. Yoga is considered an effective exercise for patients with osteoporosis. People with osteoporosis must stick to certain postures that are not too stressful for skeletal structure. For achieving the desired results, that is, abundant production of bone mass, yoga must be regularly practiced for at least 30 minutes every day.

Conclusion

While osteoporosis lurks around as a danger that is affecting people in great number, it is very important for people to understand the problem to its core. There are number of treatments that can provide relief to patients suffering from this bone wrecking problem. In order to reduce the probability of osteoporosis or any such bone problems, it is very important to follow a healthy Ayurvedic diet and lifestyle over the time.