Dynamic Chiropractic

HEALTH CARE

Osteoporosis: A Missed Opportunity (Pt. 1)

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Osteoporosis is a common age-related metabolic bone disorder characterized by bone mineral loss and reduced bone strength, leading to an increased risk of bone fractures. It is a major public health threat for an estimated 44 million Americans.

In the U.S., nearly one of every two Caucasian or Asian women over age 50 will experience a broken bone due to osteoporosis. Men and women of other ethnic groups have a slightly lower, but still substantial fracture risk.[1] It is also the cause of many disastrous consequences in terms of physical, psychological, social, and economic loss.

Overlooked and Undertreated

Even though there is a high general awareness of osteoporosis among patients and health care providers, it is overlooked and undertreated because there are no clinical symptoms until the initial fracture. There is a large gap between what is being spent on the management and treatment of osteoporotic fractures compared to diagnosis and prevention. *It is crucial to diagnose osteoporosis early for timely prevention and treatment.*

Considering a high percentage of chiropractic patients are older and suffering from various chronic disorders associated with bone loss (diabetes, hyperthyroidism, celiac disease, lupus and rheumatoid arthritis) and taking various medications, osteoporosis should be ruled out.

A majority of patients go to chiropractors for musculoskeletal issues.[2] We are the experts for conservative management of bone and joint problems. We may be missing the opportunity to prevent and treat patients before that initial fracture.

Not every patient is aware they have osteoporosis, especially men; and not every postmenopausal woman gets a DEXA scan. The issue of medications causing bone loss is also often overlooked. Some patients have been taking medications for years that are contributing to their bone loss. How many of our patients are taking blood pressure medication, along with at least one other drug that can cause bone loss?

Drugs Associated With Bone Loss

- Synthetic glucocorticoids (e.g., prednisone) (> three months)
- Breast cancer drugs
- Prostate cancer drugs
- Acid reflux drugs called proton pump inhibitors (> eight years)
- Depo-Provera
- Excessive thyroid hormone replacement
- Anti-seizure and mood-altering drugs

- Blood pressure medication
- Diuretics
- Prostate drugs
- Other drugs (e.g., acetaminophen, narcotic and opioid medications, aluminum-containing antacids, thiazolidinediones, antirejection / immunosuppressive therapy, heparin, some cancer chemotherapy drugs)

The Limitations of Bone Mineral Density Screening: The DEXA Scan

Dual-energy X-ray absorptiometry (DEXA) has been the gold standard for bone mineral density since the World Health Organization established the criteria for osteopenia and osteoporosis in 1994. However, the DEXA scan isn't always the best choice:

- It is a two-dimensional measurement, not volumetric density.
- It is not able to differentiate between cortical and trabecular bone.
- Distortion of the BMD measurement from overlying structures such as vertebral osteophytes, aortic calcifications, morphological abnormalities, and surgical intervention (i.e., laminectomy) which cause an increase in areal density can yield a value that underestimates the risk for fracture. In fact, due to this issue, in 2000 the WHO recommended that the T-scores of hip / femoral neck DEXA BMD be used as the gold standard for making the diagnosis of osteoporosis.
- Areal BMD is susceptible to bone size and will overestimate fracture risk in individuals with a small body frame.

Quantitative CT (QCT) calculates volumetric BMD (measured as milligrams per cubic centimeters) by using specialized software and a specialized BMD calibration phantom. QCT gives a more precise estimation of cancellous bone mineral density and is currently the clinical standard for volumetric BMD assessment.

Statistical studies suggest DEXA can miss 26-60 percent of patients with osteoporosis; and 11-18 percent of clinically osteoporotic patients can be categorized as normal.[3] The DEXA scan is just a screening modality; however, QCT examinations are more expensive and result in higher radiation dose to patients.

Editor's Note: Complete references supporting the in-text citations accompany part 2 of this article, which discusses a simple screening solution for the issues discussed in pt. 1.

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