The battle of the bones

By Terry Owen

Osteoporosis is a common silent and asymptomatic disease. Although it is more prevalent with women, men are also affected. It is common in the older population. Falls and fracture can be fatal however they are preventable if risks are screened for and treated.

Hayley de Wet is one of a few specialist physicians with a passion for bone health and osteoporosis. Hayley completed both her specialist training and attained her master's research degree through Wits University, for which she received distinction and an award in 2010. Hayley has attended both national and international bone orientated congresses to ensure her patients receive up to date care. She has an outpatient-based practice in Johannesburg with a special interest in women's health, bone health and disease prevention.

Hayley says that osteoporosis is a burden of disease, especially among older people.

"While it is a disease that is more common among the elderly, I do see patients of all ages presenting with it," she says. "Patients usually arrive at my office after having been screened with a bone mineral density scan called a DEXA. They may be referred to me by their GP, gynaecologist or other health care provider if they are osteoporotic, meaning their bone density is low. I have found that they also often come straight from the centre that conducts bone density scanning."

"At worst case scenario patients are referred after sustaining a fracture. Usually they have had a fall resulting in a break and someone's had the insight to refer them for bone mineral density testing."

30% Mortality rate

"Our major drive globally is to identify patients with fractures. When you look at the lifespan of an osteoporotic patient, at least half of the hip fracture patients have fractured elsewhere before. This should be seen as a red flag. The most dangerous fracture in the older population is the hip fracture because it carries a 30% mortality rate."

Hayley says of those who survive approximately 30% lose independent mobility, so this is really the dreaded fracture among the elderly.

"The most important task at hand is to identify the risks before the hip is fractured, so the big drive is for awareness," she says. "The global statistics show that one in three women will break a bone from osteoporosis – and one in five men! It is not exclusive to women. It is underrecognized, the total amount of broken bones from osteoporosis in women are more than that of heart attack, stroke and breast cancer combined! This is a staggering statistic, and proves how prevalent it is. It seems incredible that it flies under the radar – but it does.

"The problem is it is a silent disease until you break a bone. Unless you are actively being screened it will remain silent."

Fractures increasing

She goes on to say that with an ever-expanding elderly population, this burden of disease is increasing, and so the number of fractures is also increasing globally. She tells me that there is a global campaign (which is attempting to gain a foothold in South Africa) called "Capture the Fracture".

"This campaign is driven by a Fracture Liaison Service. If a patient presents with a fracture, it is documented, and the person is followed up and sent through the right channels to be screened for osteoporosis. This ensures that the patient does not fall through the cracks and inevitably return with fracture after fracture. This is unfortunately what is happening here now. I have patients who have had multiple fractures before they are finally screened and referred."

The guidelines, she says, are based on economics. Screening for women is not routinely done under the age of 60. However, where a high fracture risk is identified such as early menopause, previous chemotherapy, chronic inflammatory diseases or significant exposure to cortisone patients should be screened earlier. In men fractures tend to occur a decade later and screening can be considered from the age of 70.

Danger of falling

"You can't only look after the bones to prevent fractures. You also need to prevent the falls. It is the fall with the fragile bone that equals the fracture. Falling with older people is very common, and unfortunately, it's poorly recognised and poorly managed. Simple interventions like muscle strength training, ensuring good vision and removing tripping hazards can make a difference."

We encourage patients to exercise, but we don't prescribe walking if the person has poor balance and at risk of a fall. In this case we recommend biokinetics and you'll be getting supervised strength and balance training. It gives the patient confidence and assurance and is truly an excellent exercise regimen."

Sedatives impair balance

"Another complicating factor is the number of patients who have hip fractures and are taking sedatives. These are dished out far too regularly and it poses a significant risk, impairing balance. I try to stop the

use of these but it's incredibly difficult as the patients have been taking them for a long time and have become completely dependent on them."

Treatment

Hayley says that, in the first instance, she has to confirm the diagnosis of osteoporosis based on a low bone density and screening blood tests. However, if the patient has fractured the hip or vertebrae, what is called a fragility fracture – that's a fracture where there has been low trauma and low velocity, this should be treated regardless of the bone density readings.

"Especially a hip fracture, the patient should never be discharged without being treated. It sounds like that should be an obvious route, but it isn't because the medical funds are not always available. Only the higher plans that will cover this treatment. This is a dangerous barrier to treatment.

Oral treatment is tricky because it must be taken on an empty stomach, and the patient must be seated upright or standing. Some medication is given once a month or once a week. Medication can aggravate reflux or flare stomach ulcers. This may lead to non-compliance.

There is a yearly infusion available. "Unfortunately, treatments have received unfair bad press." These treatments are part of a drug class called bisphosphonates (Bisphosphonates are a group of medicines that slow down or prevent bone loss, strengthening bones. Bisphosphonates inhibit osteoclasts which are responsible for breaking down and reabsorbing minerals such as calcium from bone (the process is known as bone resorption).

Side effects and 'Drug Holidays' for patients

"When this is examined in context, the risk of side-effects is extremely low, less than 1.0%, it should also be noted that the risk is associated with the duration of therapy. If patients are started on therapy earlier than later when the risk is not as high, they are able to be given treatment in cycles of 3-5 years with drug holidays in between. Drug holidays are periods of time when the drug is stopped and bone resorption resumes, thus helping to negate these risks. The point is proper, pertinent and careful management.

Hayley says that the drive to create awareness is vital because there is no recognition of how prevalent osteoporosis is, the anti-fall measures are not highlighted, and the screening is not given the importance it needs.

Another problem she says is that osteoporosis and osteoarthritis are often confused.

"Osteoporosis means porous bone. We are looking at the inside architecture, the scaffolding of the bone that gives it strength. Whilst osteoarthritis refers to the joints specifically, we're looking at the joint surfaces that deteriorate and degenerate with wear and tear associated with ageing. The repair process involves the development of an irregular bone surface which causes discomfort, stiffness and pain.

"Osteoporosis is a silent and asymptomatic disease, and therefore screening is so vital. Often with many of my patients there is both osteoporosis and osteoarthritis, both must be identified and managed differently."

Is osteoporosis inevitable?

"Yes. Firstly, you must start right in the beginning with the young people, and it's all about building peak bone mass. The more bone you start off with, the more you have to lose – it's as simple as that. This means concentrating on exercise and a healthy diet and then going through life maintaining a healthy lifestyle with an adequate BMI (Body Mass Index) and adequate nutrition."

Hayley says that very thin women with poor nutrition or those with eating disorders have increased bone resorption and increased bone loss. Ultra-marathon runners need to think about protecting their bone mass as well.

"One should examine your diet to see if you're getting enough calcium and if not, this should be supplemented. Vitamin D is also important, but we don't routinely supplement with Vitamin D unless the patient is deficient as it can intoxicate patients. Vitamin D levels should first be checked and supplemented as appropriate by your doctor."

She says that patients at high risk for disease progression are those with inflammatory conditions such as inflammatory bowel disease and rheumatoid arthritis on cortisone therapy, cancer patients receiving chemotherapy, patients with nutritional compromise such as celiac disease who are unable to absorb calcium and vitamin D, familial history especially a first degree relative who has sustained a hip fracture, smoking and drinking heavily. All these should prompt a person to seek screening.

For more information see National Osteoporosis Foundation of South Africa – www.nofsa.co.za

Caption: Hayley de Wet, Johannesburg osteoporosis specialist

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