

Orthopaedic Connection

Diagnosis of Stress Fractures in Women

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Transforming patient information into patient understanding.

Last week we set the stage so to speak of what stress fractures in women are. Now we can continue to discuss what I look for in diagnosing them and what x-ray studies are useful in making the diagnosis. We will follow that with treatment of stress fractures.

A lot of the subjects I write about seem to go over two or three weeks. I like to think about it as giving you enough information to make it informative. Some may call it being too long winded! I prefer the first reason!

Findings

It is very important to make an accurate early diagnosis of stress fracture to avoid the complications of a complete stress fracture or nonunion.

The classic textbook history is the gradual onset of pain in a patient engaged in a repetitive activity. If the patient is engaged in a sport or training program, I always ask questions about changes in intensity, distance and activity type as well as the surface the activity is performed on. In women it is very important to ask about diet history, weight changes, weight preoccupation, purging behavior, menstrual history and history of previous stress or fatigue fractures.

Examination

I almost always find localized bone tenderness and some swelling with a thickening of the covering over the bone, an envelope if you will. Normally you can't feel this normal structure covering the bone, but in a stress fracture you might be able to. Muscle weakness and even atrophy might be noted. All of these findings are best demonstrated in a stress fracture of the shin bone or tibia. The tibia is a very common place for a stress fracture to occur, although it can occur in almost any bone.

Imaging (x-rays)

In the evaluation of stress fractures plain x-rays are ordinarily normal during the first two or three weeks of symptoms. Later a thin fracture line or other more obscure x-ray findings appear that I can diagnose on plain x-rays. If these x-ray findings appear, combined with history and typical physical examination findings, the diagnosis is assured.

But, alas diagnosis is not always that easy. Often I feel, from history and examination a stress fracture is present, but x-rays continue to be normal or negative for a stress fracture. The two additional ways to diagnose stress fractures are a bone scan and MRI.

A bone scan involves the injection of a radioisotope into the patient's vein. Technetium 99 is most often used. It is positive if there is an accumulation of isotope on the x-ray images in the exact location of the symptoms. It accumulates at the stress fracture site because there are many new blood vessels in the area trying to help heal the fracture. Bone scans have traditionally been used to diagnose stress fractures, but they do involve x-ray exposure.

An important option in diagnosis is MRI (magnetic resonance imaging) which can visualize the stress fracture in the bone as well as surrounding tissue edema and other changes. MRI does not cause radiation exposure. It really is up to me to decide which study would give the most information.

Dang, we're out of time again. We still need to cover treatment, which of course is very important to know about.

My patients put their trust in me and what I do improves the quality of their lives.

Gratiot County Herald Archive and Office Website

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It gives access to all Website articles, Your Orthopaedic Connection and every GCH article from most recent to the first. Full text! It covers everything I do in the office and hospital.

Good Health. Good life. All the best to you.

Dr. Haverbush