

Sharon Scherf

Treatment Plan ~ Stephen Devries, MD

Sharon's presentation with chest pain is an opportunity, not only to diagnose the reason for her chest pain but also as a window to examine her entire health picture.

Conventional

The chest pain part is by far the easiest to address. Her chest pain has some features typical of angina (pain is related to exercise and relieved by rest). Risk factors include her age of 56, past smoking, elevated triglycerides (more about this later) and possibly her use of hormone replacement therapy. The fact that the pain began around the beginning of tax season raises suspicion that stress is a factor, although stress could precipitate both musculoskeletal and cardiac pain.

Based on this presentation, I estimate that her clinical or "pre-test" likelihood of coronary disease is 50-75%. As such, I believe there are two very reasonable options for diagnosis, either stress testing (with imaging, not ECG alone) or coronary angiography. The choice between these two options should be guided by a combination of the medical issues and Sharon's own preferences and philosophy about her health care - her "inner" guide.

A stress test would be a reasonable option because an abnormal result would raise her post-test likelihood of disease to well over 70%, advancing the case to proceed with angiography. A negative result, conversely, would lower her post-test likelihood to less than 25%, which I believe would obviate the need for invasive testing at this time. The importance of adding imaging to the stress test cannot be overemphasized, especially in women, as women are especially prone to both false positive and false negative results on ECG stress tests without imaging. Either stress echo or stress nuclear can be used, depending on the level of expertise available to you in each of these areas.

A coronary angiogram would also be a reasonable option, the benefit being a more "certain" diagnosis in this patient with a fairly good clinical picture for angina.

Sharon has made her preference very clear, she wishes to avoid coronary angiography. In her case, I would have no hesitation about proceeding with a stress test-my preference would be a stress echocardiogram (more information about left ventricular function, diastolic function, and pulmonary pressures than stress nuclear). If an adequate level of stress yielded a normal study, I would not pursue further testing. In general, the decision between noninvasive work-up and cardiac cath should be a blend of science and personal preference. Some patients are very anxious about the possibility of coronary disease and wish to have a "definitive" diagnosis even if it requires an invasive procedure. Others are especially nervous about the idea of an angiogram, and will do anything reasonable to avoid this procedure. I believe these feelings, often ignored by cardiologists, are extremely important and should be a valuable guide to the diagnostic plan.

My recommendation for evaluation of Sharon's chest pain:

- Stress echocardiogram - further tests only if warranted

Nutrition

The chest pain is the tip of the iceberg, now on to the "base" of her health issues. Sharon's diet is a significant concern. The content of "simple" carbohydrates is obviously high-including pasta (mentioned sometimes for lunch and dinner), rice, and the occasional Twinkie!). High intake of simple carbohydrates has many adverse health consequences including: stimulation of pro-inflammatory factors, high triglycerides (more about this later) and increased risk of diabetes (Esposito et al., 2004). Another dietary concern is 4 cups of caffeinated drinks per day. On the plus side is her favorable intake of vegetables (3-5x/day) and fruit (2-3x/day)

My recommendation for Sharon's diet:

- Reduce intake of simple carbohydrates
 - Reduce intake of rice and emphasize brown rice
 - Reduce intake of pasta and emphasize "whole wheat" pasta
 - Reduce intake of bread and emphasize "whole wheat" bread
- Reduce intake of caffeine
 - Reduce intake to 1-2 cups per day
 - Supplement with green tea if desired
- Increase intake of fish to 2 meals per week

Manual Medicine

Stress is obviously a factor for Sharon as her pain started at the beginning of tax season, an unlikely coincidence. The physical manifestation of this was detected on exam with a "fairly tight SCM" noted. My recommendations include massage, as well as a discussion of a variety of other options.

She has had massages in the past and enjoyed them-I would encourage her to think about these massages more as "therapy" than an "indulgence" and to schedule them on a regular basis.

Mind-body & Energy Medicine

I often recommend stress management work for my patients with the dual goals of promoting a general sense of well being, as well as for reduction of cardiac risk (Blumenthal et al., 2005). I have had a great deal of success with several options including: breath work, biofeedback (emphasizing breath work and muscle relaxation), healing touch, and Reiki. Deciding which patients to refer to which modality is easier for me to do than to explain-but I'll try. Because biofeedback may be regarded as more "scientific" or "analytical" than energy work, I tend to refer patients who I anticipate will respond best to the more quantitative approach afforded by biofeedback. On the other hand, patients who appear to be more spiritually guided might resonate with healing touch or Reiki (the choice of which is related to local expertise and the personalities of respective practitioners). Those independent, self-reliant patients who wish to work by themselves have responded very well to "self-study" and for them, I recommend Andy's CD: Breathing: The Master Key to Self Healing.

The common thread between biofeedback, healing touch, and Reiki, is that these approaches emphasize the inner power and control of the patient. They only need to learn techniques to focus the power they already have.

My recommendation for Sharon's stress management:

- Massage therapy
- Discuss biofeedback, healing touch, or Reiki

Triglycerides: Conventional

Another concern I have for Sharon is her lipid profile. Although her total cholesterol of 192, LDL of 98 and HDL of 54 appear desirable, she has a concerning, yet often ignored, risk in her elevated triglyceride level of 304. Despite past controversy, it is now well understood that triglycerides are an independent risk factor for heart disease. The mechanism of harm is unclear, but likely linked to the fact that elevated triglycerides set the stage for conversion of LDL into the more atherogenic small, dense particles. Interestingly, triglycerides are an even stronger risk factor for women than for men. Reasonable triglyceride levels are under 150, with the optimal level less than 100 (Castelli 1992).

Sharon has two important reasons for her elevated triglycerides: hormone replacement therapy and diet. Hormone replacement therapy has beneficial effects in lowering LDL and raising HDL, but the downside is a boost in triglycerides. I would advise Sharon to discuss with her gynecologist the possibility of gradually tapering down, and possibly off, her hormone therapy.

Triglycerides: Nutrition/Diet

Triglyceride production is fueled in the body by carbohydrates, especially simple carbohydrates. Sharon's diet of pasta, rice and Twinkies stoke the fire that elevates her triglycerides. Eliminating snack food, reducing her rice consumption, and switching to whole wheat pasta could make a big dent in her triglycerides, and diminish her risk of heart disease.

Triglycerides: Supplements

I would also advise that Sharon take a fish oil supplement (in addition to eating two fish meals per week). Fish oil lowers the triglyceride level and helps to convert small, dense LDL into the larger, less risky, form.

I recommend beginning with 2 grams per day of combined EPA and DHA omega-3 using an EPA weighted fish oil (EPA is more effective than DHA for triglyceride lowering). This usually amounts to 4 pills of many over the counter fish oil supplements, or two pills per day of the prescription fish oil Lovaza. The dose can be increased to 3-4 grams of combined EPA and DHA per day as needed.

When using OTC fish oil, it is important to dose according to combined EPA and DHA content, rather than by "mg of fish oil" listed on the front of the bottle—a deceptive but meaningless term. Although the front of an OTC bottle might indicate each tablet has 1,000 mg of fish oil, a look at the nutritional label on the back of the bottle might indicate less than half this amount of the active EPA and DHA. I advise that you instruct patients to always check the back nutrition label on the fish oil supplement to calculate the combined EPA and DHA content per pill, and then take the number of pills needed to achieve the prescribed EPA and DHA dose.

My recommendation for lowering Sharon's triglycerides:

- Consider tapering down (and possibly off) hormone replacement
- Reduce intake of simple carbohydrates
- Fish oil: 2 grams per day of combined EPA and DHA fish oil (using an EPA weighted product)