

A REVIEW OF NONINVASIVE METHODS USED IN THE ASSESSMENT OF ATHEROSCLEROSIS-PART 2

CT ANGIOGRAM OF THE HEART

We talked about the use of Carotid Intimal Medial Thickness (CIMT) measurements as a way to assess if there is diffuse atherosclerosis in the arteries of the body in part 1 of this series. We are now going to talk about imaging the coronary arteries of the heart using a CT scan. About 10 months ago, there was a five-page article in the New York Times (Sunday edition) talking about this very topic. The article talked about the fact that this newer technology was being over used for financial gain while there was little evidence showing it may not be any better than the older technology and also exposes the patients to the equivalent of several hundred chest x-rays and the resulting increased cancer risk. Personally, I was delighted to see this article written and expose the truth about this overused modality. Oprah and Time magazine had raved about this type of angiogram prior to this article being written but obviously they had not done their homework and explored the true factual data. The role of CT angiogram of the coronary arteries in clinical practice is not defined yet and is absolutely not a screening tool for detecting blockages in the heart arteries in patients with no symptoms. Conventional coronary angiography is still the gold standard and is required by every cardiac surgeon in order to accurately assess the coronary arteries prior to heart bypass surgery. The American Heart Association does not endorse it as a screening tool or as a precursor to standard coronary angiograms either. In November 2008, an article in the New England Journal of Medicine stated that "Cardiac CT angiography misclassifies diagnosis of coronary stenosis in too many patients to replace conventional invasive imaging". This group from Johns Hopkins University found that it misclassifies approximately 13% of the areas of narrowing and also noted that, without evidence of outcome benefit, "a high resolution cardiac CT angiographic image of the heart is just another pretty picture." I couldn't agree more.

I would like to share a little story about a patient I recently saw at my office in Los Angeles and his experience with the CT angiogram of the heart arteries. This Hollywood producer had gone to his cardiologist for routine stress testing and his doctor suggested that he have a CT angiogram of his heart instead. Since this is not a covered procedure by insurance companies, he spent several hundred dollars out of his own pocket to get the test done. The test came back and he was told that he had a 90% blockage of his LAD (Left Anterior Descending Artery) of his heart, a so-called "widow-maker" lesion. His cardiologist told him that he should not exercise until he got back from his trip to Eastern Europe in three weeks at which time some further testing would be done. The patient came to see me during this time period and was frantic. I recommended to him that he should get some type of stress testing which should have been done first before anything else was done. His thallium stress test came back normal and did not show any area of his heart supplied by this artery as having limited blood flow. It was at this time that his cardiologist came back from his trip and the patient called him and asked what he should do now. His

cardiologist said that he would perform a standard coronary angiogram, which was normal. The reason I am telling this story is to show what could have potentially happen and what did happen to this nice man. First of all, he had three tests when he could have had just one. The conventional angiogram has many risks, which I touched on in Part 1, and also may have led to him having an unnecessary angioplasty and stent placement. He also was exposed to the equivalent of nearly 1500 chest x-rays. Stay tuned for Part 3; we will discuss CT Calcium Scoring of the heart arteries.