Radiation Pneumonitis: A Radiation Oncologist’s Perspective

Dr. West previously wrote an introductory post (here) about radiation pneumonitis, but this is a common enough problem that it merits further discussion, including input from a radiation oncologist. The other issue is that Dr. West was using a review article of mine (abstract here) as a crib sheet, so now I can give you a bit of perspective directly from the source.

Pneumonitis is one of the risk factors associated with radiation treatment to the lung. Radiation pneumonitis is an inflammatory reaction that resembles a pneumonia that typically occurs in patients 6-24 weeks after they have completed radiation treatment. The symptoms of radiation pneumonitis are often similar to the symptoms one experiences when one has a pneumonia or the bad flu. Patients can complain of a cough, shortness of breath, or even chest fullness. Most patients who develop these symptoms after radiation report that the symptoms resolve by themselves in 7-10 days. A few of the patients have really severe symptoms and come in to be evaluated by a physician. If the diagnosis of radiation pneumonitis is made, then patients can be treated quite effectively with a short course of steroids.

One of the important things to keep in mind is that radiation pneumonitis is a “diagnosis of exclusion.” What this means is that a very thorough and careful evaluation must be undertaken to make sure that the symptoms the patient is experiencing is not caused by something else. Only after the other possible explanations have been ruled out can one say that they have a diagnosis of radiation pneumonitis. I have noticed that there has been increasing awareness of this complication more recently. A really interesting analysis was recently reported in the literature. The physicians went back through the charts of patients diagnosed with severe radiation pneumonitis to evaluate the outcomes of these patients. They discovered to their surprise that many of the patients didn’t in fact have radiation pneumonitis but other serious conditions that had been initially “missed.” For example, one of the patients was ultimately diagnosed with a heart attack. Other patients were ultimately diagnosed with exacerbations of their COPD/emphysema. And some of these patients had infections that were ultimately treated with appropriate antibiotics. This report is a caution that should remind everyone to look elsewhere first before assuming that the symptoms are radiation pneumonitis.

Another thing to keep in mind is that some patients will have evidence of “radiation pneumonitis” on a CT scan but not have any symptoms. I think that most of us agree that these patients don’t need any treatment as long as they remain asymptomatic.

The causes of radiation pneumonitis are still being worked out. There are a number of possible suspects. The most obvious is the radiation dose, the daily fraction, and the amount of lung exposed to certain doses of radiation. Certain chemotherapy or targeted agents may make the lung more sensitive to radiation pneumonitis or may actually cause it independently. Although people with compromised lungs may do poorly if they develop radiation pneumonitis, I’m not sure that there is good evidence indicating that they are any more sensitive to this side effect than a person with healthy lungs.