

38. Pulmonary Hypertension

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Q1: "Can you educate me on what type of pulmonary damage can occur from repeated PE's?"

A1: In some people no damage of the lung remains after PE's, in others pulmonary hypertension of various degrees develops. The most common symptoms of pulmonary hypertension are fatigue and shortness of breath, particularly with exercise.

Q2: "Can anyone relate to me their treatment after pulmonary embolism? The hematologist said that I need to have a pulmonary hypertension function test at a later date due to the severity of clotting damage to my lungs. When I asked my primary physician she said: "Of course your lungs are damaged. You don't need a test to find out." She also indicated that the only way to measure this is a cardiac catheterization. My question is: Do I need a test or not?"

A2: There is no standardized approach as to which patient with PE to study at a later date for pulmonary hypertension. If the patient with a history of significant PE is considering stopping coumadin® therapy, then a cardiac echo to assess for pulmonary hypertension is indicated. If significant pulmonary hypertension is found then it may be prudent to continue long-term coumadin, because the patient has limited pulmonary reserve and even a small additional PE could be devastating. If the patient is on indefinite coumadin anyway, a cardiac echo may not be needed, because demonstrating pulmonary hypertension may not influence the patient's management. However, occasionally very symptomatic patients with pulmonary hypertension can undergo surgery to "clean out" the pulmonary vessels and relieve pulmonary hypertension. In those patients detailed knowledge of the degree of pulmonary hypertension is needed. Pulmonary hypertension can be measured by cardiac echo (non-invasive and therefore usually preferable) or cardiac catheterization (= pulmonary catheterization).

What I do:

1. When a patient who has had a PE comes off warfarin (=coumadin) or changes his/her target INR-range (from the typical 2.0-3.0 to long-term low-dose warfarin with a target INR of 1.5-2.0), I obtain the same lung imaging study that led to the initial diagnosis of PE, i.e. either a VQ scan or fine-cut CT, (also called spiral or helical CT or PE-protocol CT). I obtain this as a baseline study in case future pulmonary symptoms come up. This allows me to always know whether any changes seen on later studies are new since the patient came off coumadin or are the old changes from the initial PE.
2. In a patient who is considering discontinuation of warfarin or switch to long-term low-dose warfarin after 6 months of full-dose therapy, I obtain a cardiac echo. If moderate or severe pulmonary hypertension is present I strongly recommend long-term full-dose warfarin.
3. If a patient with a PE continues to have significant shortness of breath even after several months of warfarin (=coumadin) therapy, I obtain a cardiac echo to try to find a reason for the shortness of breath. The echo helps assess whether pulmonary hypertension may be the cause of the shortness of breath.