

Case: Bilateral Pulmonary Emboli in a Female Recently Started on Hormone Replacement Therapy

Inherited Thrombophilias: When to Test and When to Treat.

Pulmonary embolism is an extremely common and lethal condition that is the third most common cause of death in the U.S. Many cases are clinically unrecognized and many lethal cases of PE have not had any diagnostic workup.

Well known risk factors are a prior history of DVT or PE, recent surgery, pregnancy, immobilization and underlying malignancy. However inherited thrombophilias, such as anti-phospholipid antibody syndrome, are less commonly identified. The questions I pose are *how to increase recognition of atypical risk factors and if women should be screened for inherited thrombophilias before hormone replacement therapy is started.*

Case report:

N.S is an obese 46 year old Caucasian female with a past medical history of three spontaneous abortions, who presents with acute onset of SOB and chest pain. Home medications include a PPI, some antidepressives and recent use of HRT, prescribed by her GYN to treat menorrhagia. Family history is significant for diabetes, heart disease and a history of spontaneous abortions in her mother. Patient works as a secretary.

Based on clinical suspicion, a CT angiogram of the chest was done and was positive for bilateral pulmonary emboli involving the right main pulmonary artery, extending into all segmental branches as well as into the left main pulmonary artery. NS was admitted, started on Lovenox and Warfarin and discharged to follow up with her

PCP for INR testing. Once an INR of 2.5 was reached she would stop Lovenox but continue to take Warfarin for 6 months. Based upon multiple risk factors, NS was worked up for hereditary clotting disorders and antiphospholipid antibody was positive.

As a result, she requires lifelong anticoagulation.

Many cases of thromboembolic disease, such as the case of N.S, have been described in patients without other risk factors. The antiphospholipid syndrome has clinical features of venous and arterial thrombosis, miscarriage and thrombocytopenia.

According to the TREATS, or thrombosis risk and economic assessment of thrombophilia screening study, experts do not suggest routine thrombophilia screening prior to starting HRT, unless there is a family history of thrombosis in several relatives, or one relative under the age of 50 years. In such cases, it is recommended to manage these patients with anticoagulant agents¹. It is also recommended to screen Caucasian patients with an initial idiopathic episode or an HRT associated thrombotic event. Asymptomatic carriers of antiphospholipid antibody have an increased relative risk of embolic disease, although the absolute annual risk is low. Still, researchers say the use of combined hormonal contraception in such women should be discouraged.²

As for N.S, amongst risk factors such as obesity, sedentary lifestyle and recent OCP use, a diagnosis of antiphospholipid antibody syndrome explains the history of miscarriages and recent pulmonary embolism. If she had been screened for an

¹ Wu, O, Robertson, L, Langhorne, P. Oral contraceptives, hormone replacement therapy, thrombophilias and risk of venous thromboembolism: a systematic review. The thrombosis: risk and economic assessment of thrombophilia screening (TREATS) study. *Thromb Haemost* 2005; 94:17.

² G. P. Clagett **Prevention of Venous Thromboembolism: An Update** *Perspectives in Vascular Surgery and Endovascular Therapy*, January 1, 1994; 7(1): 71 - 84.

inherited thrombophilia given her history of miscarriages before she was started on HRT, perhaps she would have not suffered this life threatening, traumatic event.