The photomicrograph in Figure below shows a thoracoscopic lung biopsy from a 38-year-old woman who presented with acute symptoms and diffuse chest radiographic infiltrates. All of the following clinical scenarios are possible EXCEPT

A. This patient has a serum antibody to the neutrophil cytoplasmic enzyme myeloperoxidase and an abnormal urinalysis.

B. This patient underwent an autologous bone marrow transplantation for breast cancer 2 months ago.

C. This patient has an elevated serum creatine phosphokinase and muscle weakness.

D. This patient has a history of recurrent spontaneous abortion and deep venous thrombosis.

E. This patient’s disease is localized to the lung.
B. This patient underwent an autologous bone marrow transplantation for breast cancer 2 months ago.

This is the lesion of pulmonary capillaritis, which is characterized by a neutrophilic infiltration of the alveolar wall, with many of these cells undergoing fragmentation and becoming pyknotic.

The second important feature is dissolution of the alveolar walls, as represented by edema, fibrinoid necrosis, and free interstitial red blood cells.

The third feature is diffuse alveolar hemorrhage, often accompanied by fibrin and neutrophils.

Option B cannot be possible because it describes a patient with the idiopathic pneumonia syndrome due to preconditioning cytotoxic chemotherapy. Although diffuse alveolar hemorrhage occurs, the underlying lesion is diffuse alveolar damage. Alternatively, the patient in option B could have an infectious complication of immunosuppressive therapy. Pulmonary capillaritis occurs in the other scenarios.

Option A describes a woman with microscopic polyangiitis, which is associated with an elevation of the antineutrophil cytoplasmic antibody to myeloperoxidase (p-ANCA) and focal segmental necrotizing glomerulonephritis in >90% of cases.

Option C describes a woman with polymyositis, a condition in which pulmonary capillaritis has recently been described. Other distinct acute noninfectious pulmonary syndromes in polymyositis may have either underlying diffuse alveolar damage or bronchiolitis obliterans organizing pneumonia. Further, pulmonary capillaritis occurs with all of the collagen vascular diseases, most commonly systemic lupus erythematosus.

Option D describes a woman with the primary antiphospholipid antibody syndrome in which capillaritis is one of the pulmonary complications.

Option E describes a patient with pulmonary capillaritis confined to the lung. An isolated pauci-immune pulmonary capillaritis has been described in patients with and without antineutrophil cytoplasmic antibodies. These patients do not develop a systemic vasculitis or collagen vascular disease.