A 65-year-old woman was referred because of a 2-month history of progressive dyspnea on exertion, a 5.5-kg weight loss, and muscle weakness. She had stopped doing her usual physical activities because of breathlessness and described orthopnea requiring two pillows to sleep at night. Her past medical history was remarkable for 85 percent stenosis of the right carotid artery. Review of systems indicated recent onset of dysphagia with solid foods.

**Physical Examination**


**Laboratory Findings**

Hematocrit, 40.5 percent; WBC, 7,800 μl with normal differential; creatine phosphokinase, 3,959 IU/L; lactate dehydrogenase, 2,287 IU/L. Rheumatoid factor: negative. Thyroid function: normal. Chest radiograph: bilateral lower lobe infiltrates with small left pleural effusion (Fig 1). Pulmonary function tests: forced vital capacity (FVC), 1.67 L (55 percent predicted); total lung capacity, 3.35 L (66 percent predicted); FEV1, 1.34 L (60 percent predicted); FEV1/FVC ratio, 80; diffusing capacity of the lung for carbon monoxide (Dco), 6.6 ml/min/mm Hg (33 percent predicted); maximal inspiratory pressure at functional residual capacity, 50 cm H2O (70 percent predicted); maximal expiratory pressure, 55 cm H2O (40 percent predicted); oxygen saturation, 95 percent on room air in upright position. Chest computed tomographic (CT) scan: bilateral alveolar infiltrates (Fig 2).

**Figure 1.** Chest radiographs show bilateral lower lobe infiltrates with small left pleural effusion.

**Figure 2.** Chest CT scan shows bilateral alveolar infiltrates.

What is the cause of breathlessness in this patient? What additional diagnostic tests are indicated before therapy can be started?

*From the Section of Pulmonary and Critical Care Medicine, Dartmouth-Hitchcock Medical Center, Lebanon, NH.*