A 60-year-old smoker, hypertensive and diabetic male presented to the emergency department of a multidisciplinary hospital in Dhaka with complaints of severe shortness of breath for 2 hours and chest pain for 3 hours. Initial clinical examination revealed respiratory rate–28/min, pulse–120/min, blood pressure–80/50 mm of Hg, SpO₂–88% with O₂ 10 L/min and bilateral scattered wheeze in both lung field. No other significant finding was noted, and he was immediately shifted to intensive care unit (ICU) for further management. Immediate chest X-ray was normal, hematology & biochemistry were non-remarkable, ECG–sinus tachycardia with right ventricular strain pattern. Cardiac bio-markers were also normal, there was metabolic acidosis and respiratory alkalosis with moderate hypoxemia in arterial blood gas (ABG) analysis, D-dimer was elevated (positive in qualitative measurement). Based on these, with a presumed diagnosis of pulmonary embolism, computed tomographic pulmonary angiography (CTPA) was done which revealed almost total occlusion at pulmonary artery bifurcation (Image 1 & 2). Color Doppler echocardiogram showed dilated right ventricle and moderate pulmonary arterial hypertension. Immediate anticoagulation with unfractionated heparin followed by streptokinase thrombolysis owing to hemodynamic instability (requiring inotrope support). He also required mechanical ventilation. The patient expired on the following day.

**DISCUSSION**

Pulmonary embolism (PE) is a common and potentially fatal disease, especially among the elderly but is still underdiagnosed. Incidence rate increases exponentially
with age for both men and women. The overall age-adjusted incidence rate is higher for men (114 per 100000) than women (105 per 100000), male: female sex ratio is 1.2:1. Incidence rate is somewhat higher in women during the childbearing years. For almost one-quarter of PE patients, the initial clinical presentation is sudden death. The majority of PE arise from the propagation of lower limb deep vein thrombosis. Rare causes include septic emboli (from endocarditis affecting the tricuspid or pulmonary valves), tumor (especially choriocarcinoma), fat emboli following fracture of long bones, air, and amniotic fluid - which may enter mother’s circulation following delivery. Risk factors convincingly demonstrated include male gender, increasing patient age and body mass index, major surgery, prolonged immobility, hospital or nursing home confinement, active cancer with or without concurrent chemotherapy, multiple trauma, chronic heart failure, central vein catheterization or transvenous pacemaker, prior thrombosis, varicose veins, neurological disease with leg paresis and few hematological conditions; patients with chronic liver disease have a reduced risk. A recognized risk factor is present in 80-90%. Clinical presentation is non-specific, depends on number, size and distribution of emboli and on underlying cardiorespiratory reserve. Most patients with PE feature at least one of four symptoms which, in decreasing order of frequency, are sudden onset dyspnea, chest pain, fainting (or syncope), and hemoptysis. The occurrence of such symptoms, if not explained otherwise, should alert the clinicians to consider PE in differential diagnosis, and order the appropriate objective investigations reflect a disease process immediately. Hence patients presenting with acute onset of dyspnea should be evaluated for common cause of dyspnea but pulmonary embolism should be kept in mind, so as not to miss this fatal disease.

References:


