Asymptomatic Unilateral Hyperlucent Lung in a Prospective Kidney Donor

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Sir

A 50 year old lady, prospective kidney donor was referred to our department for opinion in view of abnormal clinical findings during preoperative evaluation. She was asymptomatic from respiratory point of view. Her vital parameters were normal and on auscultation found to have decreased breath sounds and fine crackles throughout left hemithorax. Chest x-ray (CXR) showed left sided hyperlucency with small hilum (Figure 1). High resolution computed tomography (HRCT) showed scattered areas of bronchiectasis with associated air trapping throughout left lung with small left pulmonary artery (Figure 2). Sputum for acid fast bacilli (AFB) was negative. Spirometry showed moderate obstructive abnormality with forced expiratory volume in one second (FEV₁) - 51% predicted, forced vital capacity (FVC) - 60% and FEV₁/FVC - 76% with no bronchodilator reversibility. On post bronchodilator study there was paradoxical fall in FEV₁/FVC to 72% consistent with small airway disease. Arterial blood gas analysis was normal. Technetium (Tc) 99m MAA lung perfusion scan (Figure 3) showed normal perfusion of right lung contributing 75.4% of relative function and left lung contributing only 24.6%. Diagnosis of Swyer-James-MacLeod syndrome (SJMS) probably due to a childhood viral infection was made. Operative complications in such cases like difficult weaning and extubation, post-operative respiratory infections, collapse and respiratory failure are likely. However, our patient had an uneventful operative and post-operative course. SJMS is characterized by unilateral hyperlucent of a part or the entire lung which was first described in 1953 by Swyer and James and later in 1954 by Macleod.¹,² It is considered to be an acquired disease as a result of post-infectious obliteratorbronchiolitis.

Fig. 1: Chest X Ray showing unilateral hyperlucent of left lung with small hilum

Fig. 2: HRCT showing air trapping and paucity of vessels in left lung with scattered bronchiectasis and small left pulmonary artery

Fig. 3: Technetium (Tc) 99 m MAA lung perfusion scan showing reduced perfusion in left lung

Productive cough, shortness of breath and sometimes hemoptysis are presenting symptoms. Some patients are asymptomatic and not diagnosed until they are adults.³ Radiologically it presents as predominant unilateral hyperlucency. Hence other causes of unilateral hyperlucent lung like pneumothorax, idiopathic giant bullae, congenital lobar emphysema, pulmonary artery hypoplasia, pulmonary embolism and bronchial obstruction due to foreign body or mucus plugs should be considered. Treatment is supportive with early control of super-added infections along with influenza and pneumococcal vaccination. Bronchodilators can be useful, especially if the spirometry shows obstructive abnormality.

References