Plastic Bronchitis in an Adult with Asthma
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Plastic bronchitis is a rare disease characterized by marked airway obstruction, via the formation of large gelatinous or rigid airway cast. In Korea, there were a few case reports with plastic bronchitis not in adults, but in children. So we report a case of an adult who was diagnosed as plastic bronchitis with eosinophilic casts, with no history of atopic and cardiac disease.

Key Words: Bronchitis; Etiology; Asthma; Adult

Case Report

A 27-year-old female visited our hospital complaining of worsening cough, sputum and rhinorrhea for a week, when she was in 34 weeks of pregnancy. She had neither any past medical history nor allergy history. Her vital sign and lung sound was normal. Laboratory studies revealed a white blood cell count of 13,500/μL (polymorphonuclear cells 66.6%, lymphocytes 17.7%, and eosinophils 6.6%), a hemoglobin of 11.8 g/dL and a platelet count of 224,000/μL. A chest radiograph was within normal limits (Figure 1A). She was diagnosed with acute bronchitis and was taken symptomatic drugs (antitussive and antihistamine drugs).

Two days later, she visited again and her lung sound showed up wheezing in both lower lung fields. We did the pulmonary function test (PFT) with bronchodilator response. That showed the forced vital capacity (FVC) 3.32 L (86% of predicted portends), the forced expiratory volume in one second (FEV1) 2.74 L (83% of predicted portends) and the FEV1/FVC 82%. When she inhaled bronchodilator, FEV1 increased only 9%. She could not be diagnosed with asthma. The average forced expiratory flow rate over the middle 50% of the FVC (FEF25-75) reflects peripheral airway function, her FEF25-75 was 63% and 86% before and after using bronchodilator, respectively. FEF25-75 change between before and after bronchodilator use reached 35%. It could not...
diagnose her as having asthma, but meant that she got peripheral airway obstructive dysfunction. On the grounds of wheezy lung sound, we diagnosed her as asthma and treated her with a budesonide turbuhaler, an antibiotic (clarithromycin), montelukast and antihistamine even though PFT did not meant asthma at that time. After this treatment, she did not come again in our hospital.

Two months later, she referred to our hospital because of left upper and lower lobe consolidation at chest high resolution computed tomography (HRCT) in the other hospital (Figure 2). She complained of severe cough, thick purulent sputum and rhinorrhea, but did not have fever. She lost weight about 7 kg after delivery. Her lung sound was normal without wheezing. She was admitted to our hospital, and got blood tests. In laboratory tests, there were a white blood cell count of 8,300/μL (polymorphonuclear cells 40.1%, eosino-