Summary
The pathology of the bronchi and bronchioles is reviewed and illustrated.

Key Words: Bronchitis; bronchiolitis; follicular bronchiolitis; constrictive bronchiolitis; panbronchiolitis; organizing pneumonia; Boop.

1. LARGE AIRWAYS

1.1. Introduction
The large airways include trachea and bronchi. Non-neoplastic diseases of the large airways often require a team of clinician, radiologist, and pathologist for thorough evaluation and diagnosis. For some, such as bronchiectasis, diagnosis is achieved with confidence by high-resolution computed tomography (HRCT) and clinical correlation alone. Some of the conditions described in this section are primarily pathologic descriptors [e.g., bronchocentric granulomatosis (BCG)] applied in many clinical disorders.

1.2. Tracheomalacia and Tracheobronchomalacia
Tracheomalacia and tracheobronchomalacia are clinical disorders associated with softening of the cartilage and loss of structural integrity of the trachea and upper bronchi. Both primary and secondary etiologies are recognized. In pediatric patients, prematurity or prolonged mechanical ventilation is often implicated (1). In adults, many cases are posttraumatic or postinflammatory with or without complicating infections (1). Pathologically, the tracheal and bronchial cartilage shows destruction and loss, with associated acute and chronic inflammation and replacement of cartilage by fibrosis. Granulomatous inflammation can be seen in cases associated with Wegener’s granulomatosis and granulomatous infections.

1.3. Tracheobronchopathia Osteochondroplastica
Tracheobronchopathia osteochondroplastica is a rare disease of unknown etiology. It is most commonly seen in adult males (2). The disease is characterized by multiple submucosal metaplastic cartilaginous and osseous nodules throughout the large airways (Fig. 1). They appear as firm/hard nonulcerated protruding nodules with fiberoptic bronchoscopy.

1.4. Tracheobronchomegaly
Tracheobronchomegaly (also termed Mounier–Kuhn syndrome) is a rare lung disease associated with markedly dilated large airways, leading to recurrent infections (3, 4). It usually presents in the
third and the fourth decades of life although a few congenital cases have been reported \( 3-5 \). The cause is unknown.

Pathologically, atrophy of bronchial cartilage and smooth muscle leads to tracheal and bronchial enlargement and secondary infection and inflammation (Fig. 2). Some cases become indistinguishable from bronchiectasis.

### 1.5. Infectious Bronchitis

Bronchi are susceptible to many infectious organisms. The pathologic changes are usually acute and/or chronic inflammation or granulomatous inflammation depending on the causative microorganism. Mucosa necrosis, metaplastic changes, and submucosal fibrosis may also occur. The causative organism may (or may not) be recognized with special stains or on the basis of identifiable viral inclusions.