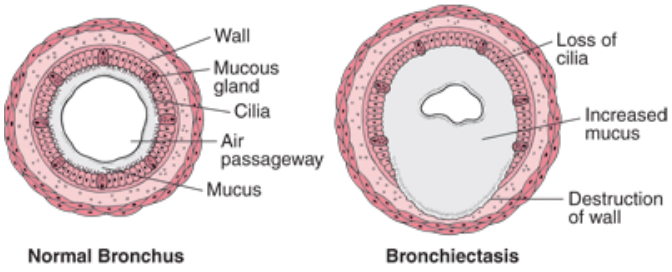
Information Snapshot

Bronchiectasis

Bronchiectasis is a relatively common chronic pulmonary disorder characterized by chronic productive cough, recurrent active chest infections, ongoing inflammation and destruction of medium to small airways which, if left unchecked, results in terminal lung disease in those at the more severe end of the spectrum, and significant morbidity for most.



Originally described in 1819 by Laënnec, bronchiectasis is a suppurative lung disease with heterogeneous phenotypic features. Bronchiectasis is diagnosed on axial images of high-resolution chest computed tomography (HRCT) scans. The specific criteria include the following:

- The internal diameter of the bronchus is larger than that of its accompanying vessel
- The bronchus fails to taper in the periphery of the chest.

Numerous causes of adult non-CF bronchiectasis have been described, although over 50% are idiopathic with the remaining common causes including post infectious, auto-immune disease, immune deficiency such as post treatment for leukaemia, or common variable immune deficiency.

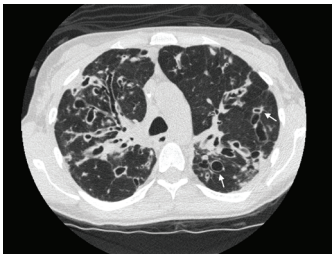
Bronchiectasis usually starts insidiously as a chronic cough which becomes progressively worse with increased frequency of exacerbations due to bacterial organisms such as streptococcus pneumonia, Haemophilus influenzae and staphylococcus aureus. As the disease progresses colonization with pseudomonas occurs and at this stage, accelerated decline in FEV1 and functional status occurs.

In the mucous filled airways non tuberculous mycobacterial (NTM) infections can occur and are notoriously difficult to eradicate. Also, prior to commencing macrolide treatment these organisms need excluding to avoid developing macrolide resistant NTM.

In regard to patients whom present with a chronic productive cough, even those with COPD or heavy smokers, it is important to exclude bronchiectasis with a HRCT.

Once the diagnosis has been established initial workup consists of bacterial and mycobacterial sputum culture, total immunoglobulin levels, autoantibodies such as ANA, ENA, aCCP, cystic fibrosis gene testing, CF sweat testing and titres to pneumococcal vaccine if there is diffuse disease.

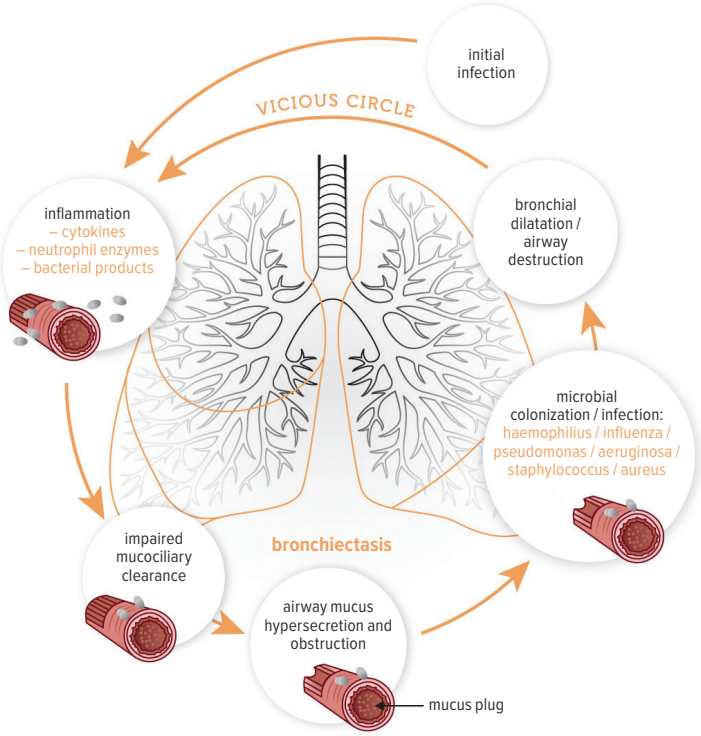
Long-term treatment consists of:



- Airway clearance with chest physiotherapy and hypertonic saline in severe cases
- Exercise via pulmonary rehabilitation
- Anti-inflammatory therapy with macrolides such as erythromycin. These agents have immunomodulatory effects such as modifying mucus production, inhibition of biofilm production, suppressing inflammatory mediators, and moderating leukocyte recruitment and function
- Treatment of exacerbations with antibiotics according to sputum culture and direct sensitivity testing. Usually two weeks of antibiotics are required and in the case of moderate to severe exacerbations due to pseudomonas aeruginosa, a two-week course of intravenous antibiotics is required

To summarise, bronchiectasis is a debilitating chronic suppurative lung condition with significant morbidity if left unchecked. Early diagnosis and management strategies such as airway clearance, exercise, anti-inflammatory therapy and aggressive treatment of exacerbations can significantly improve outcomes.

Click here for more about Dr Stephen Vincent



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