The Dangers of Distal Airway Endotracheal Suction Trauma

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A 28 week old premature male twin was referred to the regional neonatal intensive care unit with lobar collapse presumed to be caused by mucus plugging. We describe the management and finding of a bronchial granuloma likely secondary to distal airway suction trauma.

Upon transfer CT thorax (image 2) demonstrated an obstructing opacity in the right lower main bronchus which was thought to be a mucous plug. Initially he was referred to the respiratory team for consideration for flexible bronchoscopy to clear the mucus plug but they felt that this would be too small for their endoscopes so an ENT referral was suggested. Rigid bronchoscopy under general anaesthesia was performed. A pale soft tissue mass was noted in the right lower main bronchus (image 3). This was pedunculated and attached to the lateral wall of the bronchus by a thin stalk. The mass was removed with foreign body forceps (images 4 and 5) which lead to an immediate improvement in ventilation. The baby was subsequently weaned off CPAP and discharged. Histological analysis of the mass revealed necrotic granulation tissue.

We believe that the granulation is due to distal suction trauma when the child was initially intubated.

Summary

Trauma from suctioning can cause significant morbidity in both intubated patients and tracheostomised patients. In this case the resulting granulation led to unilateral hypoventilation and collapse. It is important that intensive care staff are aware of the importance of suctioning to the correct depth.