Bronchial stenting for compression due to cardiac fibroma

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BACKGROUND
We present a case of paediatric ventricular fibroma causing secondary bronchial compression with literature review of the use of bronchial stenting for extrinsic compression.

METHODS
A term baby was diagnosed with a benign ventricular tumour at age 2 days. Following deterioration at 3 months with recurrent cardiac arrests, the tumour was partially debulked and ventricular fibroma diagnosed. A self expanding Nitinol bronchial stent was inserted to treat ongoing hyperinflation of the left lung due to bronchomalacia with respiratory compromise and ventilatory requirement.

RESULTS
Respiratory function improved significantly following insertion of the stent, with successful weaning from mechanical ventilation. The use of the stent was complicated by in-stent stenosis and granulations, and colonisation by coliforms. Serial balloon dilatation was required on a 6-monthly basis to minimise symptoms. At age 5 the stent was removed piecemeal via rigid bronchoscopy. The child has been asymptomatic since stent removal.

CONCLUSIONS
Airway stenting in children is associated with high morbidity and experience remains limited. Extrinsic compression from mediastinal tumours can cause ongoing bronchomalacia following relief of the compression, which can lead to problems such as collapse or hyperinflation of the distal lung. Bronchial stenting may be indicated when there is failure to wean off mechanical ventilation. Self expanding metallic stents are a useful treatment option in selected paediatric patients with tracheobronchomalacia but have significant complications and often require regular intervention to maintain stent patency. Removal of metallic stents can be difficult or impossible. The emergence of bioabsorbable airway stents may reduce complications.