There is no definitive evidence confirming the superiority of early surgical decompression, nor a consensus as to what time frame constitutes early, emergency, urgent, or delayed decompression.[5 10] It is generally agreed that the timing of surgery should be based on the individual patient and the availability of resources and skills, and should be as early as safely possible. Co-existing pathology at the cervical spinal level may result in severe neurological impairment after surgery requiring neck hyperextension.

Conflict of interest

None declared.

M. Carron*
S. Veronese
C. Ori
Padova, Italy
**E-mail: micarron@libero.it*

1 Farling PA. Thyroid disease. *Br J Anaesth* 2000; **85**: 15–28
2 Fujioka S, Niimi Y, Hirata K, Nakamura I, Morita S. Tetraplegia after coronary artery bypass grafting. *Anesth Analg* 2003; **97**: 979–80
3 Mercieri M, Paolini S, Mercieri A, De Blasi RA, Palmisani S, Pinto G, Arcioni R. Tetraplegia following parathyroidectomy in two long-term haemodialysis patients. *Anaesthesia* 2009; **64**: 1010–13
4 Sandalcioglu IE, Hunold A, Müller O, Bassiouni H, Stolke D, Asgari S. Spinal meningiomas: critical review of 131 surgically treated patients. *Eur Spine J* 2008; **17**: 1035–41
5 Crosby ET. Airway management in adults after cervical spine trauma. *Anesthesiology* 2006; **104**: 1293–318
6 Whiteson JH, Panaro N, Ahn JH, Firooznia H. Tetraparesis following dental extraction: case report and discussion of preventive measures for cervical spinal hyperextension injury. *J Spinal Cord Med* 1997; **20**: 422–5
7 Talluri SK, Talluri J, Besur S, Kakarala R, Klair N. Catastrophic complication of chiropractic manipulation: a report of quadriparesis. *Am J Med* 2009; **122**: e3–4
8 Dinsmore J, Bacon RC, Hollway TE. The effect of increasing degrees of spinal flexion on cerebrospinal fluid pressure. *Anaesthesia* 1998; **53**: 431–4
9 Rowland JW, Hawryluk GW, Kwon B, Fehlings MG. Current status of acute spinal cord injury pathophysiology and emerging therapies: promise on the horizon. *Neurosurg Focus* 2008; **25**: pE2
10 Swartz KR, Scheff NN, Roberts KN, Fee DB. Exacerbation of spinal cord injury due to static compression occurring early after onset. *J Neurosurg Spine* 2009; **11**: 570–74

doi:10.1093/bja/aeq106

Tracheobronchopathia osteochondroplastica: a rare cause of difficult intubation

Editor—Tracheopathia osteochondroplastica is a rare disorder, where there is benign dysplasia of the trachea and large bronchi, characterized by calcifying cartilaginous outgrowths into the tracheal lumen.[1]

A 70-yr-old man developed right upper quadrant pain, a week after inguinal hernia repair. An ultrasound of the abdomen confirmed the diagnosis of cholelithiasis. Owing to multiple cardiac problems, he was initially considered for conservative management. Three days later, due to his deteriorating general health, it was decided to do an urgent laparotomy. Anaesthesia was induced with propofol and remifentanil target controlled infusion. He was easy to ventilate. The laryngoscopic view was Grade I, but it was difficulty to pass the tracheal tube (TT) beyond the vocal cords. Eventually, a 6.0 size TT was introduced over a bougie with a grating sensation, felt during intubation. Since there was no great difficulty with ventilation through this tube, we decided to proceed with surgery. Once the surgery was finished, we performed a fibreoptic bronchoscopy with a paediatric bronchoscope and we observed submucous projections from the wall from the subglottic level down to the bronchi. The patient was then transferred to the intensive care unit and ventilated for 3 days. He was extubated over a tube exchanger uneventfully.

We discovered later from his old medical records that he had a condition called tracheopathia osteochondroplastica (Fig. 1). This condition had presented as chronic dry cough in 1996, which on further investigation by bronchoscopy and computed tomography (CT) had been diagnosed as tracheopathia osteochondroplastica. Tracheal stenting had been suggested, but a thoracic surgeon had advised against it in view of his cardiac problems, anticoagulation, and complication risks. His shortness of breath was considered to be due to his cardiac problems. No further

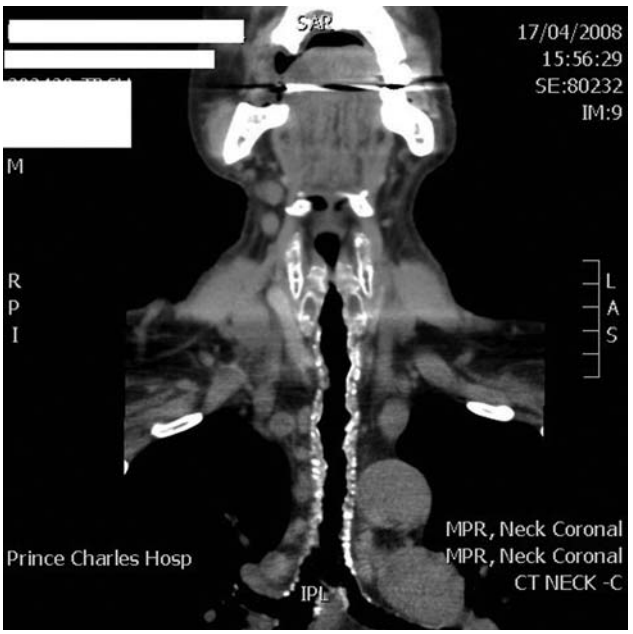

Fig 1 CT image demonstrating the irregular, asymmetric stenosis of the trachea indicating tracheopathia osteochondroplastica.

investigation was recommended thereafter if there was no worsening of symptoms. The family did not convey this problem to us before operation as it was not considered significant by them. Since his prior investigations had confirmed the diagnosis, bronchoscopy was not repeated and he was discharged home after a CT scan of the neck.

The aetiology and pathogenesis of tracheopathia osteochondroplastica are not known. The presenting symptoms may include dyspnoea, stridor, haemoptysis, or a dry cough. There is no gender predominance. Most of the cases reported were diagnosed as incidental findings at autopsy. The typical bronchoscopic findings are irregular spicules of submucosal bone and cartilage projecting into the anterior and lateral walls of the tracheobronchial lumen and causing various degrees of airway obstruction, but the involvement of the larynx is rare. CT evidence of numerous broad-based protrusions, some of which are calcified, and marked, irregular, asymmetric stenosis of the trachea, is indicative of tracheopathia osteoplastica.[2] Changes in the pulmonary function tests depend on the degree of involvement of airway lumen. Bronchoscopy is necessary to achieve a definite diagnosis.

There have been very few case reports of difficult intubation on account of this condition. The prognosis of this condition is usually excellent, with airway obstruction usually progressing slowly. Intervention is indicated if there are symptoms of airway stenosis. Treatment is symptomatic including antibiotics, mucolytics, hydration, and inspired air humidification. The surgical treatment consists of rigid bronchoscopy with dilation and removal of obstructing spurs, may be in multiple stages if necessary.[3]

Anaesthetic considerations for this condition, if severely symptomatic, are similar to tracheal stenosis from any other cause. Where this disease is suspected, a difficult intubation should be followed by bronchoscopy and tracheal biopsy or CT scanning if bronchoscopy is impossible due to subglottic stenosis and biopsy becomes difficult due to calcifications.

Conflict of interest

None declared.

U. Gurunathan*
Brisbane, Australia
**E-mail: usha.nathan@gmail.com*

1 Smith DC, Pillai R, Gillbe CE. Tracheopathia osteochondroplastica: a cause of unexpected difficulty in tracheal intubation. *Anaesthesia* 1987; **42**: 536–8

2 Braman SS, Grillo C, Mark EJ. Case records of the Massachusetts General Hospital. Weekly clinicopathological exercises. Case 32-1999. A 44-year-old man with tracheal narrowing and respiratory stridor. *N Engl J Med* 1999; **341**: 1292–9

3 Tibeser RJ, Edell SE. Tracheopathia osteoplastica: effective long-term management. Clinical photograph. *Otolaryngol Head Neck Surg* 2003; **129**: 303–4

doi:10.1093/bja/aeq107