cal stimuli after 12 minutes. Dressing was done on alternate days. On the 4th dressing the patient started to respond to stimuli after 8 minutes. During the next few dressings the response to ketamine was reduced. After 20 dressings he recovered from ketamine anaesthesia after 4 minutes, and each time we had to increase the dose.

This indicates that a patient can develop tolerance to ketamine if given frequently over a short period. This phenomenon has not been observed previously to our knowledge.

Captain M. Saleem Khan
Captain A. Hameed Bhatti
*Department of Anaesthesia,
Combined Military Hospital,
Rawalpindi, Pakistan*

Oesophageal Crohn's disease

Sir,

I read with interest the case report 'Cricopharyngeal Crohn's disease' by Rowe *et al.*¹ Recently I had the opportunity of seeing a case of Crohn's disease with diffuse involvement of the entire oesophagus which has not been described before.

A 55 year old woman presented with a 4-month history of dysphagia, weight loss and anorexia. She had not experienced any vomiting or abdominal pain. Her bowels were regular with formed stool. Another major symptom was hoarseness of voice for two months. In the past, she had had a laparotomy in 1983 for attacks of unexplained central abdominal pain. No abnormality was found. Her examination was unremarkable apart from bilateral tonsillar enlargement.

A barium swallow showed abnormalities extending from the thoracic inlet to the gastro-oesophageal junction, suggestive of Crohn's disease. Upper gastrointestinal endoscopy showed hyperaemic oesophageal mucosa with cobblestoning and irregularity of the mucosa of the whole oesophagus which was narrowed throughout. Passage of the endoscope through the oesophagus caused marked discomfort. The stomach and duodenum appeared

normal. Oesophageal biopsies showed epithelioid granulomata with multinucleated giant cells. Stains for acid-fast bacilli and fungi were negative. Direct and indirect laryngoscopy confirmed gross hypertrophy of the lingual tonsils and histology showed that the lymphoid tissue contained multiple epithelioid granulomata. The mucosa of the larynx was oedematous, congested and friable but there was no other abnormality present. Barium studies of stomach, small intestine and colon were normal. On colonoscopy the mucosa looked normal throughout, but the terminal ileum was not visualized. Random biopsies showed mild infiltration of chronic inflammatory cells in the lamina propria where active inflammation and epithelioid granulomata were seen. The diagnosis of Crohn's disease was established in this patient on the basis of endoscopy and histology.

Oesophageal involvement by Crohn's disease is rare. Reported cases of oesophageal Crohn's disease have described thickened mucosal folds with deep ulcerations, strictures, intramural sinus tract and fistula to neighbouring structures.² More recently aphthous ulceration has also been described.³

This patient also presented with hoarseness of voice due to laryngeal disease. Involvement of the larynx and the bronchial tree in Crohn's disease is very rare.⁴

R. Sinharay
*Wrexham Maelor Hospital,
Wrexham, Clwyd LL13 7TD.*

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