

COLD, FIZZY AND PERFORATING

As we head through summer — and it feels as though it has been a long hot one — this interesting case report from Australia may seem pertinent. Hui Loh and David Cooke report a rare case of spontaneous intramural oesophageal perforation after rapid swallowing of a cold carbonated drink.

A 57-year-old woman presented to her local emergency department with sudden retrosternal chest pain immediately after she had swallowed a large mouthful of a cold carbonated drink directly from the bottle. The first experience of this severe pain led to a brief loss of consciousness. She described the pain as continuous, made worse by swallowing and accompanied by mild nausea but no vomiting. Previously well, she had a mild fever and appeared distressed by the pain. Examination showed only epigastric tenderness with retrosternal radiation.

She had a mildly elevated white cell count and normal chest X-ray and ECG. A CT scan of the thorax showed a tiny bubble of gas, either within the wall of the oesophagus or just adjacent to it in the middle mediastinum. The authors note that this did not rule out a full perforation of the oesophagus.

The woman was admitted and managed nil by mouth, with intravenous fluids and triple antibiotic therapy, which included ampicillin, gentamicin and metronidazole. She was given intravenous omeprazole three times daily and observed closely. Her fever resolved within 24 hours, but her C-reactive protein rose over the same period. A second CT scan with water-soluble contrast showed intramural contrast with no extravasation, consistent with a partial perforation of the oesophagus. Gastroscopy showed a 10 cm longitudinal mucosal/submucosal tear in the left posterolateral wall of the oesophagus, 3 cm above the gastro-oesophageal junction.

Conservative treatment was continued and the patient's symptoms improved. She started on clear fluids on day 4, progressed to a soft diet and was discharged on day 7. She continued oral omeprazole 40 mg daily. Four weeks later she still had mild dysphagia and a repeat gastroscopy showed healing scar tissue with no sign of a stricture.

Boerhaave's syndrome or spontaneous perforation of the oesophagus classically follows forceful vomiting. The syndrome is a form of barogenic rupture caused by a rapid rise

in intraluminal pressure when there is sudden distension of the oesophagus. The authors suggest that in this case the rapid swallowing of the cold drink led to spasm of the distal oesophagus followed by effervescent expansion, resulting in a rapid build-up of intra-oesophageal pressure. It is a serious condition. Among those who experience complete perforation, mortality is 13 - 25% if treated within 24 hours of symptoms starting, 33 - 65% if treated 24 - 48 hours after the onset of symptoms, and 89% if treated after more than 48 hours. Weakening of the oesophageal wall, for example through reflux oesophagitis, infectious oesophagitis, Barrett's ulceration or oesophageal cancer, predisposes to the syndrome.

Loh HJ, Cooke DAP. *MJA* 2004; **181**: 554-555.

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SINGLE SUTURE

A PAIN IN THE BRAIN?

According to Vania Apkarian and colleagues from Northwestern University, Chicago, patients with chronic lower back pain lose grey matter from two brain areas. Apkarian *et al.* scanned the brains of 26 patients who had suffered lower back pain for at least a year. Some had a damaged sciatic nerve; others no obvious injury. However, all patients had lost grey matter in the dorsolateral prefrontal cortex, involved in emotional processing and behaviour control, and the thalamus, which relays sensory information to the cortex. The total tissue loss was 1.3 cm for each year that the patient suffered back pain — equivalent to the effect of ageing 10 - 20 years. Previous work by the same team has shown that people with chronic back pain perform poorly in tasks involving emotional decision making — mediated by the dorsolateral prefrontal cortex. Researchers are not sure which happens first — the back pain or the brain tissue loss or whether the damage is irreversible.

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