A hard pilsner to swallow: a case series of bottle cap foreign bodies in Canterbury over a 3-month period in 2023

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Foreign body ingestion is a common presentation to acute care that can lead to significant morbidity or mortality without appropriate and timely management. Bottlecaps are small and sharp, and though uncommon world-wide as a cause of foreign body ingestion, threaten complications of ulceration and perforation. The burden of alcohol excess and pattern of drinking in Canterbury makes this presentation far from novel. We present three cases of bottle cap ingestion to highlight their risk and endoscopic management approaches.

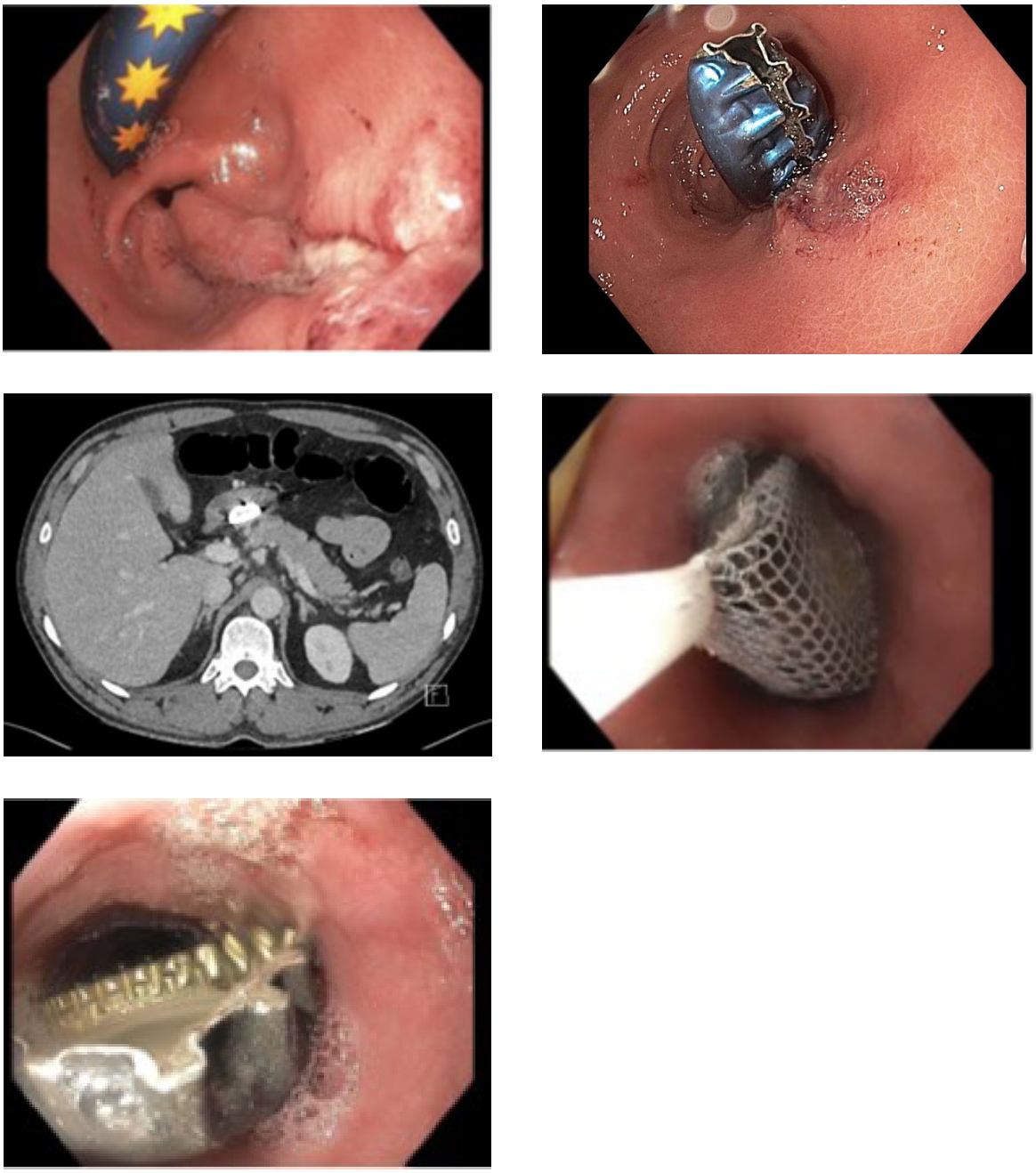
Discussion

Canterbury, among other regions in New Zealand, suffers the plight of a binge-drinking culture. Moreover, Christchurch has the second highest weekly alcohol intake per week by region.[1] The adverse consequences are realised at the hospital front door, with 4–5% of emergency department presentations relating to alcohol consumption. Inadvertent ingestion and impaction of bottle caps is rare as a phenomenon but can be life threatening owing to their sharp edges.[1,2]

Table 1: Case series.

	Case 1	Case 2	Case 3
Demographics	30y M	38y M	55y M
Presentation	Complete acute oesophageal obstruction	Postprandial pain, 2 days after accidental ingestion of food bolus	Complete acute oesophageal obstruction
Investigations	Chest X-ray	Computed tomography abdomen–pelvis	Chest X-ray
History of alcohol	+	+	+
Management	OGD Failed removal with Roth Net Pulled into extraction hood and removed with scope	OGD Failed removal with Roth Net Removed with 20mm braided snare with heat	OGD Pushed into stomach, unable to retrieve due to food in stomach Repeat endoscopy required after fast to extract using Roth Net
Complications	Minor oesophageal erosion	10mm gastric ulcer	Nil
Underlying disease	Nil	Nil	Nil
Length of stay (days)	1	2	0

Figure 1: Upper endoscopy images of impacted bottle caps.



A case series in a German university town reported 14 cases over a 10-year span, and a total of only 20 cases have entered the literature since 1988.[2,3] We describe three cases presenting to Christchurch Hospital within 3 months.

The key points upon review of our three patients include that all cases involved a history of inebriation and amnesia to ingestion of the foreign body. It is suspected that ingestion took place during the rapid consumption of excess amounts of alcohol, with or without the soporific, anaesthetic effect of antecedent inebriation. The age group was perhaps older than the archetypal student cohort (average age of 23.0 +/4.2 with a range of 18.3–35.6 in the German cohort of 14 patients over 9 years).[3] This complication took place in the absence of underlying gastro-oesophageal disease. The duration of hospitalisation and complication rates are low, reflecting the short latency to presentation, and a healthier patient cohort.

Interestingly, our three cases follow the trend of published cases in that this is a presentation exclusively of males.[2]

Endoscopic retrieval of the foreign body can be difficult. Table 1 demonstrates the improvised methods of using an extraction hood, a braided snare with heat and a Roth Net as effective endoscopic strategies. In two of the three cases, initial attempt with a Roth Net was ineffective. In the last case, a repeat procedure was required due to food debris within the stomach. Specific guidance on removal of foreign bodies is limited.[4,5] The most common approach from a case series was by grasping forceps in 56%, and mesh loop in 22.2%.[2]

Guidelines support early imaging for radiopaque objects to evaluate the presence, location and character of options, and to evaluate for signs of perforation.[4,5]

The World Society of Emergency Surgery guidelines support emergent (within 2 hours, 6 hours at the latest) endoscopy for the removal of sharp pointed objects causing complete obstruction, and endoscopy within <24 hours for incomplete obstruction due to the threat of deep and penetrating complications. While the studied patients have largely had good outcomes, the tendency to embed within the wall of the viscus demands expedient work-up and management.[5]

Though rare as presentations, conceivable measures that may abrogate its risk include advocating for consumption of cold beer where a burgeoning "brain freeze" might slow the rate of consumption, encouraging more expensive beers as a financial disincentive, drinking alternative beverages including champagne (where there remains no case reports of oesophageal obstruction) or wine and, at the heart of the issue, addressing the hitherto unshiftable entity of hazardous beer drinking.[2,3,6]

Conclusion

An impacted bottle cap is a rare but serious complication of acute and excessive alcohol intake, with the burden of this entity resting upon adult males. The nature of this foreign body obliges clinical and radiological investigation for complications prior to proceeding to emergent endoscopic extraction. Viable endoscopic techniques for extraction include the use of a Roth Net, extraction hood and braided snare with heat.

COMPETING INTERESTS
None.

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