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The use of Coca-Cola in the management of bolus obstruction in benign oesophageal stricture

N D Karanjia MS FRCS*
Registrar in General Surgery

M Rees MS FRCS
Consultant General Surgeon

Basingstoke District Hospital, Basingstoke

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Oesophageal stricture is a complication of oesophageal reflux and may itself be complicated by bolus obstruction. We reviewed the records of patients presenting with dysphagia and who were found to have benign oesophageal strictures. We studied the outcome of bolus obstruction in 13 episodes affecting eight patients. In six episodes Coca-Cola® was administered on the day before endoscopy, and in all these patients the bolus had cleared. In seven episodes nothing was administered before endoscopy, and in all seven a bolus was evident at endoscopy. In five of these seven the bolus was removed piecemeal and in each of these instances the endoscope had to be passed between two and five times. In the remaining two instances the procedure was abandoned and the patients returned to the ward for the administration of Coca-Cola. At subsequent endoscopy these patients were found to be clear of any bolus. These results suggest that the administration of Coca-Cola (or other aerated drinks) may clear a bolus in the acutely obstructed oesophagus.

Benign oesophageal stricture is an intractable problem necessitating a long-term management strategy. From time to time these patients may present with acute food bolus obstruction of the oesophagus, when a piece of unmasticated food becomes trapped in the strictured area. Once a foreign body is impacted the likelihood of spontaneous passage is small as mucosal oedema grips it more tightly *(1)*.

The management of this problem usually involves endoscopy with an attempt made to either retrieve the bolus or to push it through the stricture. Both manoeuvres may be difficult as the bolus usually fragments. Attempts at retrieval may require several endoscopies at the same session with marked discomfort for the patient. Some surgeons still tackle the problem using a rigid oesophagoscope under general anaesthesia with all its accompanying risks and potential for complications. This short paper evaluates the empirical use of aerated drinks such as Coca-Cola® to clear the bolus so that subsequent endoscopy and oesophageal dilatation might be easier.

Methods

The records of all patients presenting with dysphagia and requiring upper gastrointestinal endoscopy over a 3-year period were reviewed and those presenting with acute food bolus obstruction were separated.

All patients with food bolus obstruction were endoscoped within 24 h of admission. Several patients had presented with multiple episodes within the specified period. Some of these episodes had been managed by the administration of Coca-Cola at the time of presentation and before endoscopy, whereas other episodes had been managed by endoscopy in the unprepared patient, according to the preference of the admitting surgeon. Absence or presence of the obstructing food bolus at the time of endoscopy was noted. In all patients the obstructing stricture was biopsied and then dilated under direct vision using balloon dilators.

Results

Table I shows all the episodes of bolus obstruction that occurred in eight patients. All the patients had benign oesophageal strictures, probably related to reflux disease.

* Present appointment: Registrar, The Vascular Unit, St George's Hospital, London

Correspondence to: Mr M Rees MS FRCS, Hepatobiliary Unit, Basingstoke District Hospital, Aldermaston Road, Basingstoke, Hampshire RG24 9NA

Table I. Outcome of bolus obstruction in all patients

Patient (sex, age)	*Type of bolus*	*Coca-Cola given?*	*Bolus seen at OGD?*	*Pathology besides stricture*
1 EK (M, 87)	Tablets + food	No	Yes, removed in bits	Oesophagitis, no hiatus hernia
2 EL (M, 72)	Food	Initially no,	Yes, OGD abandoned	No oesophagitis, hiatus hernia
		Then 3 days of Coke	No	
3 AW (F, 58)	Food	No	Yes, removed in bits	No oesophagitis, hiatus hernia
	Food	Yes	No	
4 JM (F, 63)	Food	No	Yes, removed in bits	Oesophagitis, hiatus hernia
	Food	Yes	No	
	Food	Yes	No	
5 DM (M, 67)	Food	No	Yes, removed in bits	Oesophagitis, no hiatus hernia
	Food	No	Yes, removed in bits	
	Food	Yes	No	
6 TC (M, 76)	Food	Yes	No	Oesophagitis, no hiatus hernia
7 FT (M, 80)	Food	Yes	No	Oesophagitis, hiatus hernia
8 PP (F, 92)	Food	Initially no,	Yes, OGD abandoned	Oesophagitis, hiatus hernia
		Then Coke for 1 day	No	

There were 13 episodes of bolus obstruction. In six of these episodes Coca-Cola was administered before endoscopy and in all of these patients the bolus had cleared before the instrument was inserted. In the other seven episodes, Coca-Cola had not been administered before endoscopy and in all of these the bolus was seen. In five of these seven episodes the bolus was removed piecemeal, and in all these cases the endoscope was passed at least twice and in one case five times. In the last two episodes the bolus was extensive and difficult to remove. The procedure was abandoned in each instance and the patients returned to the ward and advised to drink Coca-Cola. At repeat endoscopy 1–3 days later the bolus was found to have cleared.

Discussion

Peptic oesophageal stricture is a common problem that arises from repeated reflux of gastroduodenal contents into the oesophagus. The management of this condition is well documented and may include repeated dilatation and antireflux therapy as the initial treatment, the type of dilatation depending on the length and severity of the stricture *(2)*. In the intractable situation surgery remains an important option.

Several methods have been suggested to relieve impacted food. Removal with a Foley catheter *(3)* may be possible but carries the risk of mucosal damage, particularly when the oesophagus is strictured. Proteolytic enzymes such as chymopapain *(4)* may digest a meat bolus but may also lead to mucosal damage, mediastinitis, perforation and death. There has been one study that looked at acute oesophageal food impaction in patients with an otherwise normal oesophagus (patients were excluded if there was any doubt that there might be an underlying stricture *(5)*. A combination of glucagon, E-Z gas (a combination of sodium bicarbonate, citric acid and simethicone) and water was used to clear the food bolus and was successful in 80% of cases.

The results of our study suggest that acute food bolus obstruction, even in the strictured oesophagus, may be managed efficiently by the simple expedient of administering an aerated drink such as Coca-Cola before endoscopic evaluation of the underlying pathology. It seems likely that fizzy drinks might penetrate the bolus and induce its disintegration by releasing carbon dioxide gas within the bolus. Furthermore, if the drink were to seep through into the stomach, the release of gas within the latter might dislodge the bolus at eructation. Aspiration and oesophageal perforation are potential risks but did not occur in any patient. Although in this study Coca-Cola worked well, champagne might be the drink of choice for those who can afford it!

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