

## GASTRO-INTESTINAL HAEMORRHAGE FOLLOWING INGESTION OF 'ALKA-SELTZER'

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ASPIRIN is a well recognised cause of upper alimentary haemorrhage and represents a major contributory factor in 25 per cent of acute episodes (1,2). Alka-Seltzer, a combination of acetylsalicylic acid, sodium bicarbonate and citric acid, has never been shown to produce significant gastrointestinal haemorrhage in healthy human volunteers even when given with alcohol (3,4). However, during the last six years, ten patients with acute gastro-intestinal haemorrhage following ingestion of 'Alka-Seltzer,' have been admitted as medical emergencies.

Patients with dyspepsia may be encouraged to take 'Alka-Seltzer' since its use has been

recommended for the lay-treatment of upset stomach.

### Patients, methods and results

Over the period 1972-78, ten patients were admitted to a general medical unit with upper gastro-intestinal bleeding following the ingestion of 'Alka-Seltzer'. The details of these patients are shown in Table I. All had taken 'Alka-Seltzer' because of dyspeptic symptoms prior to the clinical onset of gastrointestinal blood loss. Seven patients required blood transfusion and two underwent emergency surgery. The cause of haemorrhage was considered to be erosive gastritis (4 patients), gastric ulceration (3 patients) duodenal ulceration (2 patients), stomal ulceration (1 patient).

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Table I. Clinical data on 10 patients admitted with gastro-intestinal bleeding following 'Alka-Seltzer' ingestion.

Patient	Age(yr.)	Sex	Past History	Present history	'Alka-Seltzer' consumption prior to admission	Final diagnosis	Diagnostic procedure	Transfusion (pints)
P.D.	50	M	Chronic intermittent dyspepsia, severe for 4 yr.	Exacerbation of dyspepsia for 3 wk.	2 tabs/day for 3 wk.	Prepyloric gastric ulcer	Endoscopy	× 6
G.W.	48	M	Nil	Intermittent dyspepsia for 2 wk. Haematemesis & melaena for 24 hr.	2 tabs/day for 3 days	Lesser curve gastric ulcer	Barium meal	× 4
H.W.	71	M	Chronic intermittent dyspepsia, severe for 3 yr.	Exacerbation of dyspepsia for 1 wk. Haematemesis & melaena for 24 hr.	4 tabs/day for 5 days	Chronic duodenal ulcer with pyloric stenosis	Laparotomy (TV+ gastro-enterostomy)	× 12
D.H.	56	M	Chronic duodenal ulcer TV & gastro-enterostomy 6 yr. previously. Dyspepsia for 6 mth.	Dyspepsia for 3 wk. Melaena for 2 wk.	2 tabs/day for 3 wk.	Gastric stomal ulcer	Endoscopy	× 2
B.G.	59	F	Dyspepsia for 4 yr. known hiatus hernia.	Dyspepsia for 3 wk. Haematemesis for 24 hr.	3 tabs/day for 3 days	Hiatus hernia Gastric erosions	Endoscopy	Nil
W.L.	42	M	Dyspepsia 10 yr.	Exacerbation of dyspepsia for 24 hr. Haematemesis & melaena for 12 hr.	2 tabs for 1 day	Chronic duodenal ulcer. Gastric erosions	Endoscopy Emergency partial gastrectomy	× 12
I.F.	19	M	Nil	Dyspepsia for 4 wk. Melaena for 2 days	2 tabs/day for 2 days	Gastric erosions	Endoscopy	Nil
G.D.	19	M	Dyspepsia for 2 yrs. Known duodenal ulcer	Dyspepsia for 1 wk Haematemesis & melaena for 12 wk.	3 tabs/day for 2 days	Chronic duodenal ulcer	Endoscopy	× 9
M.S.	65	F	Nil	Dyspepsia for 1 day Haematemesis for 12 hr.	2 tabs for 1 day	Hiatus hernia (presumed gastric erosions)	Barium meal	Nil
G.G.	74	M	Dyspepsia for 10 yr.	Exacerbation of dyspepsia for 2wk. Haematemesis for 6 hr.	2-3 tabs/day for 10 days	Lesser curve gastric ulcer + hiatus hernia	Endoscopy	× 6

### Discussion

'Alka-Seltzer' tablets (acetylsalicylic acid, 0.325g, sodium bicarbonate, 1.95g, citric acid, 1.04g and calcium phosphate 0.195g) form sodium acetylsalicylate, sodium citrate, sodium bicarbonate and carbon dioxide in solution. It is claimed that unlike acetylsalicylic acid, sodium acetylsalicylate increases the rate of gastric emptying and in combination with sodium citrate and sodium bicarbonate, provides a buffering capacity which is usually sufficient to maintain a gastric pH at which there is no gastric absorption of acetylsalicylate (5,6). Studies in healthy volunteers and in patients with rheumatic complaints without a dyspeptic history have shown that when acetylsalicylate is sufficiently buffered with sodium bicarbonate gastric mucosal injury and increased faecal blood loss do not occur (7,8). These physico-chemical properties of 'Alka-Seltzer' demonstrate the value of combining acetylsalicylate with an antacid in the treatment of headaches and other minor aches and pains.

However, the efficacy and safety of such a combination in the management of dyspepsia is unknown and since the upper alimentary disease delays gastric emptying, it seems likely that the risk of gastric mucosal damage will be greatly increased. Though most agree that patients with dyspeptic history should avoid all aspirin-containing compounds, patients may be encouraged

to take 'Alka-Seltzer' for dyspeptic symptoms *since* the recommendations for its use include upset stomach especially after over-indulgence in food or alcohol. We believe that its use as an antacid-analgesic may be hazardous in dyspepsia and **SHOULD NOT** be recommended.

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