

Intestinal colic caused by food

FREDERICK O. STEPHENS

From the University of Sydney, Department of Surgery, Sydney Hospital, Australia

EDITORIAL SYNOPSIS Bolus colic in children eating unripe apples is well recognized but the many possible causes in adults are less well known; its importance, particularly in patients who have had partial gastrectomy, is well brought out in this paper.

Intestinal colic following meals is a common complaint, but in most cases when patients complain of such colic it is dismissed in a cloud of vague terminology such as 'food sensitivity', 'intestinal hurry', 'intestinal irritation', or even 'wind colic'. Possibly there is at times truth in each of these expressions but in the majority of cases the real cause of the colic is largely unknown. The purpose of this paper is to present evidence that some cases of post-prandial intestinal colic are due to incomplete or temporary obstructive episodes caused by a food bolus.

Since Eichhorst in 1940 first reported a case of obturation of the small intestine by a bolus of 909 cherry stones, many foodstuffs have been incriminated in causing similar obstructive episodes. In reviewing the literature, Ward-McQuaid (1950) found reports of 178 patients with small intestinal obstruction caused by 45 different materials. Records of 53 different foodstuffs which had been similarly associated were reported from this Department in 1964, and to this was added a further case of obstruction being caused by a bolus of partially cooked rice (Stephens, 1964). Since that time a further review of the literature has revealed another nine foods which have been incriminated. These are Christmas pudding (Keynes, 1950), meat (Payne, 1950), methylcellulose (Desjacques, Pouyet, and Bene, 1952; Francillon, 1952), macaroni (Pecora, Pepe, and Cooper, 1952), kidney beans (McCabe and Knox, 1963), prune stone (Rosen and Shapiro, 1964), potato skin (Wilde, 1965), wild peaches (Seith, 1965), and a case of grass ball obstruction of the ileum in an 18-year-old psychologically disturbed youth (Kune, 1965).

In reporting our case of obstruction caused by a bolus of rice it was postulated that the bolus might have passed spontaneously had conservative measures been instituted, but only after the patient had suffered further colicky pain (Stephens, 1964). This

postulate was supported by evidence presented by Powley (1961) who wrote of an edentulous gastrectomized patient who had suffered colicky pain and abdominal distension on several occasions after eating meals of tripe. Ultimately on one such occasion after eating tripe he developed such severe symptoms that a laparotomy was performed. He was found to have obstruction of the ileum by a large bolus of tripe. It was considered that his previous attacks of pain had been due to temporary or incomplete obstructive episodes caused by a bolus of tripe. Two recent reports lend further evidence in support of this concept. Tolstedt and Bell (1963) reported three cases of sauerkraut causing small bowel obstruction in patients with poor dentition. In two of these cases treatment was medical and symptoms subsided spontaneously. One patient had had a total colectomy with terminal ileostomy two years previously. He presented with colicky abdominal pains for two hours, high-pitched bowel sounds, and abdominal distension and radiological evidence confirming small bowel obstruction. The ileostomy was found to be open and unobstructed on digital examination. Shortly after admission a large bolus of food passed spontaneously through the ileostomy and recovery followed. One year later the patient had a similar episode following the ingestion of a large lettuce salad. Abel (1964) reported two cases of gastrectomized patients who presented with severe colic and with clinical and radiological evidence of small bowel obstruction after eating cabbage and orange respectively. Both cases were treated conservatively after a diagnosis of food bolus obstruction was confidently made, and recovery ensued spontaneously in one patient and after repeated enemata in the other. Abel emphasized the need for close and careful hospital observation if non-operative treatment was to be followed.

How frequently post-prandial colic is due to a temporary or incomplete bolus obstruction is un-

certain, but there is now evidence to suggest that this does constitute a definite clinical syndrome which may on occasion be recognized with reasonable confidence. Although oranges, persimmons, and dried fruits are most commonly responsible for an actual bolus obstruction, it would seem that a large number of foodstuffs could, on occasion, cause such symptoms in different patients. The following are the materials which have been found in the literature to have been clearly incriminated in causing bolus obstruction:

Almonds	Lemon pith
Ammunition bread	Lettuce leaves
Apples	Locusts
Apricots	Macaroni
Banana	Meat
Beans	Methylcellulose
Bones	Mushrooms
Bran	Oats
Brussels sprouts	Oranges
Butter beans	Peaches
Cantaloup	Peanuts
Carrots	Peas (with beans)
Celery	Peas (with fruit)
Cherries	Persimmons
Cherry seeds	Popcorn
Chicken skins	Poppy seeds
Christmas pudding	Potatoes
Coconut	Potato skin
Coleworts	Prunes
Cucumber	Prune stone
Figs	Radish and garlic
Fish scales	Raisins
Fruit (unspecified)	Rice
Garlic bulb	Sauerkraut
Gooseberries	Sweet potato
Grapes	Tomato skins
Grass ball	Tripe
Grasshoppers	Turtle eggs
Green corn	Watercress
Kidney beans	Watermelon
Kriege-Brot	Wild peaches

Patients with poor dentition or who are edentulous, patients who rush meals or otherwise fail to masticate their food adequately, and particularly

patients who have had partial gastrectomy, are at special risk and should be advised to take particular care in the selection and mastication of their food. Especially should they avoid foods with a high cellulose or fibre content, but also they should avoid food which may have caused them intestinal colic on a previous occasion.

SUMMARY

A review of the literature has shown 63 foodstuffs which have been incriminated in causing organic obstruction of the small bowel by a food bolus.

Evidence is given that post-prandial abdominal colic can also on occasion be due to temporary or incomplete obstructive episodes due to food.

It is suggested that edentulous people, people who rush meals, and particularly people who have had partial gastrectomy, are at special risk and should be advised to take appropriate precautions.

REFERENCES

- Abel, K. P. (1964). Conservative management of bolus obstruction after gastrectomy. *Brit. J. Surg.*, **51**, 331-333.
- Desjardes, R., Pouyet, J., and Bene, R. (1952). Iléus alimentaire. *Lyon chir.*, **47**, 866-867.
- Francillon, J. (1952). Un cas d'iléus d'origine thérapeutique. *Ibid.*, **47**, 888-889.
- Keynes, G. (1950). Intestinal obstruction due to food. *Brit. med. J.*, **1**, 1266.
- Kune, G. A. (1965). Grass-ball obstruction of the normal ileum. *Brit. J. clin. Pract.*, **19**, 217-218.
- McCabe, R., and Knox, W. G. (1963). Phytobezoar in gastrectomized patients. *Arch. Surg.*, **86**, 264-266.
- Pecora, D., Pepe, E., and Cooper, P. (1952). Acute intestinal obstruction caused by macaroni. *New Engl. J. Med.*, **246**, 702-703.
- Payne, R. V. (1950). Intestinal obstruction due to food. *Brit. med. J.*, **1**, 1435.
- Powley, P. H. (1961). Bolus obstruction after partial gastrectomy. *Brit. med. J.*, **2**, 1392-1393.
- Rosen, I. B., and Shapiro, B. J. (1964). Radiation enteropathy of the small bowel. *Canad. med. Ass. J.*, **91**, 681-688.
- Seith, W. I. (1965). Food bolus obstruction of small bowel: an unusual cause. *Med. J. Aust.*, **1**, 56.
- Stephens, F. O. (1964). Food bolus obstruction of small bowel: an unusual cause. *Ibid.*, **2**, 547-548.
- Tolstedt, G. E., and Bell, J. W. (1963). The edentulous mouth post-gastrectomy stomach and sauerkraut ileus: an unnecessary syndrome. *West. J. Surg.*, **71**, 39-40.
- Ward-McQuaid, N. (1950). Intestinal obstruction due to food. *Brit. med. J.*, **1**, 1106-1109.
- Wilde, W. L. (1965). Potato skin phytobezoars in edentulous gastrectomized patients. *Amer. J. Surg.*, **109**, 649-651.