

Title page

Title

Konjac flour noodles associated with gastric outlet obstruction

Type of Article

Case letter

Authors

Dr Christine Jackman¹, Emergency Physician; MBBS, FACEM. MHPE

Mr Ryan Waddell¹, Medical Student; MBBS

Dr Leon Fisher², Gastroenterologist; BMBS, FRACP

Dr Michael Ben-Meir¹, Emergency Physician, Director of Emergency Medicine;
MBBS, FACEM, MHLthEthics, GCMA, DRANZCOG

Dr Gabriel Blecher^{1,4}, Emergency Physician; MBBS (Hons), PDM, FACEM, CCPU,
MSc (Epi)

Dr Gerard S Goh⁵, Interventional Radiologist, MBBS, FRANZCR, EBIR

Dr Katie Walker^{1,3}, Emergency Physician, Director of Emergency Medicine
Research; MBChB, Dip DHM, FACEM

Institutions

1. Emergency Department, Cabrini, 183 Wattletree Rd, Malvern, Melbourne, 3144, Victoria, Australia
2. Department of Gastroenterology, Cabrini, 183 Wattletree Rd, Malvern, Melbourne, 3144, Victoria, Australia
3. Department of Epidemiology and Preventative Medicine, The Alfred Centre, 99 Commercial Rd, Melbourne, 3004, Victoria, Australia
4. School of Clinical Sciences at Monash Health, Monash University, Wellington Rd, Clayton, 3800, Victoria, Australia
5. Department of Radiology, Alfred Hospital, 55 Commercial Rd, Melbourne, 3004, Victoria, Australia

Short Running Title

Konjac flour noodles and gastric obstruction

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A 61-year-old non-Indigenous Australian woman presented to an emergency department with a 10-day history of upper abdominal bloating, post-prandial pain and vomiting.

Her medical history included a hysterectomy and varicose vein surgery. She was a non-smoker and consumed occasional alcohol. She took no regular medications and had a latex sensitivity.

Physical examination revealed a soft but tender distended abdomen with a large irregular palpable mass extending from the left upper quadrant into the right lower quadrant. A succussion splash was audible. An abdominal CT scan (see Figure 1) demonstrated a massively distended stomach, containing food matter; which had compressed the 4th section of the duodenum. Blood tests including haematology, electrolytes, renal and liver function tests were unremarkable. The patient was admitted to hospital for further investigations and a nasogastric tube was inserted which drained a small amount of fluid only.

Gastroscopy performed 48 hours later revealed a normal oesophagus and a large soft mass of undigested vegetable matter in the stomach completely obstructing the lumen (see Figure 2). The scope was carefully “tunnelled” through the bezoar until the pylorus was reached. The scope could then be passed well into the distal duodenum. No other obstructing lesions were seen and the duodenal lumen was empty. The bezoar was partially broken up with the scope tip and a snare and flushed into the duodenum. The whole bezoar could not be evacuated. The nasogastric tube was re-inserted. Proton pump inhibitors (started on admission) were ceased and the patient was allowed clear fluids over the next few days. When gastroscopy was repeated 4 days later the bezoar was almost completely gone. The patient gradually returned to normal diet and was discharged home.

After the gastroscopy, when questioned about her dietary intake the patient recalled eating a whole pack of Konjac flour noodles a day prior to the onset of her symptoms. The patient reported no other food intake that day and no other food intake post ingestion of the noodles, prior to her symptoms commencing.

Discussion

Konjac is a root vegetable from Asia (*Amorphophallus konjac*). It is currently being used as a dietary supplement in Australia. Claims have been made that Konjac and its extract (glucomannan/food additive E425) are able to assist with weight loss and lower cholesterol and blood sugar levels(1, 2). Konjac is extremely hydroscopic and glucomannan expands 12 to 17-fold(3) on contact with water or hydrochloric acid solution. It is marketed as a dieting tool as it expands in the stomach on contact with fluids, delaying gastric emptying and creating satiety whilst contributing very few calories.

Glucomannan containing dieting pills have been associated with oesophageal obstruction. A case series of 9 patients were reported in Australia in 1986(3). In

2002, glucomannan was associated with a series of choking deaths(4) and has been banned in confectionary in Australia(5), Europe and the USA.

Australia now has ready-made meal products (including noodles) containing Konjac flour available in many local shops. The noodle associated with this gastric outlet bezoar and obstruction was made from 5% Konjac flour and water. We wish to raise concern that the Konjac noodle product may cause gastric outlet obstruction by expanding once in the stomach. If it is clinically suspected, we recommend general anaesthetic for the gastroscopy to help clear the bezoar.

Competing interests statement: no relevant disclosures

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Bezoar.JPG



CT of gastric outlet obstruction and stomach distension, with arrow.jpg



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Author/s:

Jackman, C;Waddell, R;Fisher, L;Ben-Meir, M;Blecher, G;Goh, GS;Walker, K

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