

## Pineapple juice ingestion for gastric discomfort in diabetic gastroparesis

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### To the Editor,

Diabetes mellitus with associated gastropathy has also been described as a risk factor for phytobezoar formation (1). The dissolution of phytobezoars with the use of pineapple juice has been reported (2,3). Here we describe a patient with diabetes mellitus type 2 and gastroparesis whose gastric discomfort was relieved by the ingestion of pineapple juice.

A 49-year-old man with type 2 diabetes mellitus, abdominal distension and anemia was referred to our clinic for endoscopic evaluation. Two years prior to referral, the patient had begun to use insulin therapy due to his diabetes being poorly controlled. Gastroscopy showed undigested food in the stomach without findings of gastric outlet obstruction (Fig. 1). Pineapple juice ingestion was suggested to the patient as a treatment option, and he began drinking 75 ml of Dimes® 100% pineapple juice 3 times a day (after each meal). After 3 days of this treatment, repeat gastroscopy revealed an empty stomach (Fig. 2). At this time the patient reported that his gastric discomfort had resolved.

Our recent experiences have suggested that pineapple juice may be useful in dissolving undigested food (2) or a phytobezoar (3). These observations might be explained in part by the presence of bromelain, a proteolytic enzyme, in pineapple juice (4).

Compared to the treatment options for bezoar (surgery, endoscopic procedures), prevention via changes in dietary habits would appear to be preferable. As part of an attempt to prevent bezoar formation in at-risk patients, we recommend the ingestion of pineapple juice. The optimal dose, however, is not clear. In the patient described here, an oral dose of 75 ml was used instead of 200 ml as used previously.

There appear to be some limitations in using pineapple juice. For patients with diabetes, the sugar content of pineapple juice must be taken into account. For patients in general, another potential limitation is that pineapple juice has been reported to inhibit hepatic cytochrome p450 activity (5), which could affect the metabolism of some medications.

**In conclusion**, the ingestion of pineapple juice in low doses may be useful in helping to dissolve undigested food in patients with diabetes mellitus and gastroparesis. Pineapple juice ingestion may also be useful in the prevention of phytobezoar. Both of these possibilities appear to merit investigation in controlled trials.

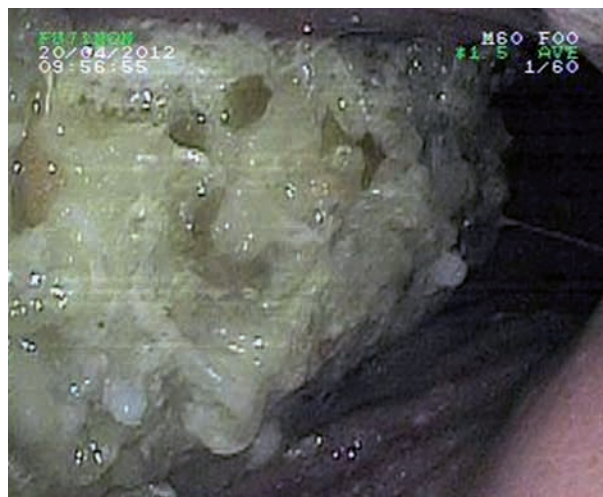


Fig. 1. — Gastroscopy showed undigested food in the stomach without findings of gastric outlet obstruction.



Fig. 2. — Gastroscopy revealed the success of drinking of pineapple juice in the same patient.

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