Correspondence
Correspondance

Bay leaf perforation of Meckel's diverticulum

Conventional folk wisdom and culinary practice recommend removal of bay leaves (*Laurus nobilis*) from food before serving because of possible internal trauma.[1–4] We describe a case in which a 46-year-old man suffered intestinal perforation by an ingested bay leaf.

Case report

A previously healthy 46-year-old man was admitted to our Emergency Department with a 1-day history of nausea, abdominal discomfort and tenderness in the right lower quadrant. A provisional diagnosis of acute appendicitis was made. At operation, a normal-appearing appendix was removed through a McBurney incision. The terminal ileum was examined, and an acutely inflamed Meckel's diverticulum was found and removed by simple wedge resection. The patient made a smooth recovery and was sent home on the second postoperative day.

On pathological examination of the excised specimens, the vermiform appendix was 7 cm long and 0.8 cm in diameter, and was grossly and microscopically normal. The Meckel's diverticulum consisted of a portion of viscus 4.5 cm long with one end opened; the other end was a blind sac, with an irregular serosal fibrinous membrane 2 cm in diameter. On palpation of the blind end, a sharp object was felt protruding through the serosal surface. When the lumen was opened, a portion of bay leaf, 2 cm long, was found penetrating the bowel wall at an area of mucosal ulceration (Fig. 1). On microscopic examination, the perforation site showed discontinuity of the mucosa associated with fibrin deposition. The serosal surface at that site was covered by a membrane of fibrin infiltrated by polymorphonuclear leukocytes.

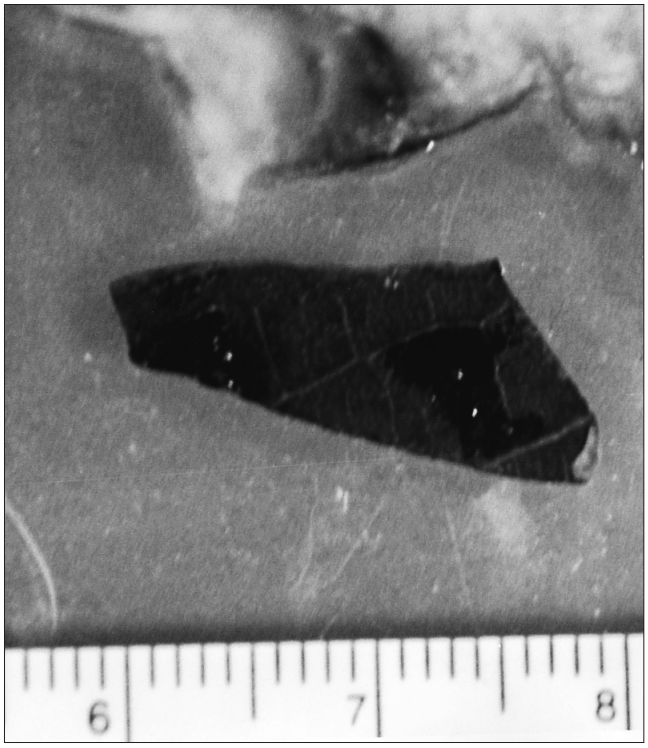

FIG. 1. The bay leaf found in a Meckel's diverticulum. A portion of diverticular mucosa shown at the top had focal mucosal ulceration. Scale is in centimetres.

Discussion

Cases of viscus perforation due to ingested foreign bodies are frequently described in the literature.[5,6] A Meckel's diverticulum is a common site of perforation, and the ingested foreign body, if it is part of the diet, is usually a fish or chicken bone.[6] Foreign bodies of vegetable origin have occasionally been described,[7–9] and of these the bay leaf is a frequent cause of perforation. Bay leaves remain more or less intact in the gastrointestinal tract. They are rigid and can have sharp points and margins. Swallowed leaves can be likened to ingested razor blades, and the validity of accumulated folk wisdom can be seen in some accepted culinary practices.

C. David Bell, MD
Department of Pathology
University of Toronto
Toronto, Ont.

Robert A. Mustard, MD
Department of Surgery
Wellesley Central Hospital
Toronto, Ont.

References

1. Panzer PE. The dangers of cooking with bay leaves [letter]. *JAMA* 1983; 250:164-5.
2. Cross P. *Kitchen wisdom*. Camden

(ON): Camden House Publishing; 1991:47.
3. Herbst ST. *The food lover's tiptionary.* New York: Hearst Books; 1994:33.
4. Ortiz EL. *The encyclopedia of herbs, spices, & flavorings.* New York: Dorling Kindersley; 1992:33.
5. Palin WE, Richardson JD. Complications from bay leaf ingestion [letter]. *JAMA* 1983;249:729-30.
6. Daniell SJ. Foreign body perforation of a jejunal diverticulum. *J R Soc Med* 1982;75(9):747-9.
7. Schwartz GF, Polsky HS: Ingested foreign bodies of the gastrointestinal tract. *Am Surg* 1976;42:236-8.
8. Lumsden AB, Dixon JM. Tomato skins penetrating the small bowel. *Br J Surg* 1984;71(8):648.
9. Lingenfelser T, Adams G, Solomons D, Marks IN. Bay leaf perforation of the small bowel in a patient with chronic calcific pancreatitis [letter]. *J Clin Gastroenterol* 1992;14(2):174-6.

Need for radiologists to interpret orthopedic total joint radiographs

We believe that the methodology employed by Nayak and colleagues in their study "Interpretation by radiologists of orthopedic total joint radiographs: Is it necessary or cost-effective?" (*Can J Surg* 1996;39 (5):393-6) has significant problems. There are factual errors in the initial paragraph: (1) Most private offices in Canada that have many orthopedic patient visits have the total joint radiographs interpreted by the attending radiologist. (2) It is not the policy of our institution that all radiography must be performed by the Department of Radiology, since the Division of Cardiology performs some of its own radiography. (3) It is not the policy of the Department of Radiology that all radiographs be interpreted and that the fee for this interpretation be billed by the radiologist. On the contrary this is the policy of the London Health Sciences Centre, supported by the Public Hospitals Act.

The study described by Nayak and colleagues was not a prospective one, as indicated in the abstract of the article but was clearly a retrospective study as described in the Methods section. Regarding the methodology, the radiographs were not read by the orthopedic division independent of the clinical history but were read in conjunction with the clinical assessment of the patient. If the orthopedic division had (1) designed a prospective trial with blind reading of the radiographs without clinical information, as is the usual scenario in the radiology department, (2) indicated the probability of the radiograph changing the subsequent management and (3) indicated whether any of the radiographic findings actually changed the management plan, based on the clinical assessment only, the study would have been strengthened immeasurably.

The professional component of the radiologic examination does not consist solely of interpreting the results of a diagnostic procedure. It has 5 components[1] as follows:

(A) Providing clinical supervision, including approving, modifying or intervening (or both) in the performance of the procedure when appropriate, and quality control of all elements of the technical aspect of the procedures.

(B) Performance of any clinical procedure associated with a diagnostic procedure that is not separately billable (e.g., injections that are integral to the part of the study) and of any fluoroscopy.

(C) Post-procedural monitoring, where appropriate, including intervening, except when this constitutes a separable billable service.

(D) Interpreting the results of the diagnostic procedure.

(E) Providing premises for any aspect(s) of (A) and (D) that is (are) performed in a place other than that in which the procedure is performed.

We are not sure how to interpret the statement, "of the 240 primary total knee replacements, there was no discrepancy between the orthopedist's and radiologist's interpretations...." We are not in the practice of including in our consultation comment on whether the proposed operation is pertinent. Had the study been designed with the question: Based on the radiographic appearance only, is a total joint replacement recommended at this time?, we believe the study would have been strengthened and might have led to differences of opinion between the orthopedist and radiologist.

Naylor and colleagues recognized that there is a difference in opinion as to the suitability and timing of total joint replacement.[2] In this excellent review, which included one of the authors of the current article, more than 20% of the panelists reportedly were unable to agree on the appropriateness of the joint replacement classification in 30% of the scenarios included.

The individual cases cited in Nayak's article in support of their underlying hypothesis are examples of a lack of collegiality. There is no indication that any of the radiographs were reviewed by a radiologist in consultation with an orthopedic surgeon or with provision of relevant clinical findings.

With respect to economics, the authors propose that by removing the radiology consultation they would save $23 000. The average costs in our hospital for total knee and total hip replacements are $5473 and $5699 respectively. If 30% of the primary cases included in this study were inappropriate, the savings would represent ($0.3 \times 240 \times \$5473 + 0.3 \times$