GASTROINTESTINAL COMPLICATIONS

Although difficulty with swallowing, constipation, and diarrhea all may occur as downstream effects of diabetes on the autonomic nervous system, the primary gastrointestinal complication of the disease is gastroparesis, or partial paralysis of the stomach. Because the vagus nerve controls the motility of the stomach, damage to the vagus – which occurs in diabetic autonomic neuropathy – can lead to impaired motility. This partial paralysis of the stomach results in impaired gastric emptying.

More information about gastroparesis and other gastrointestinal complications of diabetes is discussed in the following articles:


History:
Because the stomach can only contain a finite amount of food at any point in time, the more slowly food empties out of the stomach, the less food that can enter during a meal. Thus, people with gastroparesis will often experience bloating, abdominal discomfort, and early satiety when eating. In more advanced gastroparesis, they may even have nausea and vomiting. Patients may also report difficulty avoiding hyperglycemia, since gastroparesis may cause an unpredictable and delayed rise in post-meal serum glucose.

Physical Exam:
Physical exam will be normal in most patients, but in those with severe disease, a succussion splash may be heard by holding either side of the patient’s pelvis and gently shaking the abdomen. A succusion splash can indicate gastric dilation, a consequence of gastroparesis that results from the stomach’s retaining too much liquid. If the gastroparesis is profound, the patient may even have a distended abdomen.

Tests:
While history tends to strongly support the diagnosis of gastroparesis, radiographic studies can show delayed gastric emptying. Such studies may also be used to rule out structural lesions as the cause of the patient’s symptoms. (See figure.)

Treatment:
Although it has not been proven, it has been suggested that better glycemic control can improve one’s gastric motility and emptying. In addition, smaller, more frequent meals can decrease symptoms. In patients suffering from nausea and vomiting in association with their gastroparesis, metoclopramide – which has both antiemetic and prokinetic activity – may be prescribed.

More information about the treatment of gastroparesis is discussed in the following article:
- Camilleri, Michael. “Treatment of delayed gastric emptying.” UpToDate.com

Self Assessments:
All of the following are true regarding the features of gastroparesis in people with diabetes, EXCEPT:

A. Autoimmune inflammation of the stomach muscle leads to impaired motility
B. Early satiety may occur because of impaired gastric emptying
C. A succussion splash indicates dilation of the stomach
D. In order to rule out structural lesions as the cause, barium-swallow radiographs may be obtained

Explanations:
A. Correct! Damage to the vagus nerve (as a result of autonomic neuropathy) leads to impaired stomach motility, not damage to the stomach muscle itself.
B. Incorrect. This is a true statement.
C. Incorrect. Gastric dilation is a consequence of gastroparesis and succussion splash reveals its presence.

D. Incorrect. Barium aids in the visual analysis of radiographs involving the gastrointestinal tract and can be quite useful to rule out structural causes of delayed stomach emptying.