

Recurrent vomiting and dyspepsia

Friday, 02 June 2006

A 43-year-old male presented to the Emergency Department complaining for vomiting and dyspepsia. He refused persistently to give any more details. He asked for an intramuscular injection of metoclopramide, refusing further investigation, since "he already knew his problem ("recurrent gastritis)". However, he was convinced to undergo an electrocardiogram in our attempt to rule out vomiting of cardiac origin, which showed ST changes and minimal U wave, suggestive of hypokalemia (Figure 1). The physical examination on presentation was unremarkable except for epigastric tenderness. Routine laboratory testing on admission was unremarkable except for low serum potassium (K=2,1 mmol/liter). The arterial blood gas testing showed metabolic alkalosis (pH=7,66, bicarbonate = 55,2 mmol/liter, pCO₂ 49mmHg, pO₂ 63mmHg, saturation O₂ 96%). Since his symptoms insisted, the patient accepted to be admitted.

During his hospitalization, he revealed that he had history of upper gastrointestinal bleeding four years earlier without undergoing further investigation. Since then he has been complaining for occasional vomiting that was empirically managed with metoclopramide. He didn't report chest pain, headache, fever, weight loss, or other symptoms. He was afraid of hospitals and doctors and he avoided visiting his family physician. The last two weeks prior to admission, his condition deteriorated. His other past medical history was unremarkable and he received no medications, except the occasional use of metoclopramide. He did not smoke and he did not drink alcohol.

Question

Based on the patient's history and physical examination, which one of the following is the most likely diagnosis?

- A. Functional or non-ulcer dyspepsia
- B. Peptic ulcer disease complicated by pyloric stenosis
- C. Esophagitis or reflux without esophagitis
- D. Gastric or esophageal cancer
- E. Biliary track disease

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Discussion

The answer is B: Peptic ulcer disease - Pyloric stenosis.

The patient refused to undergo gastrointestinal endoscopy, but accepted to undergo a barium meal examination, which showed severe pyloric stenosis (Figure 2). The computer tomography of the abdomen showed severe stomach dilatation without masses or other abnormal findings (Figure 3). He underwent vagotomy and enteroanastomosis. The biopsy of the removed segment of the stomach did not show any malignant changes.

Peptic ulcer disease refers to duodenum or gastric ulceration and the main causes are *Helicobacter pylori* and NSAIDs¹. Predominant epigastric pain or discomfort that is periodic (present for some months and absent for others), relieved with food is important for the diagnosis. Nevertheless, even these classic features of peptic ulcer, though common in peptic ulcer are often present in functional dyspepsia².

Severe peptic ulcer resulting in hypertrophic pyloric stenosis (HPS) is a rare clinical problem nowadays. Symptoms

include vomiting, nausea, early satiety, weight loss, epigastric pain especially after eating. The physical examination may not be helpful because the pyloric mass is difficult to palpate. On contrast radiography, the elongated narrow pylorus is again apparent: gastric emptying is delayed and the stomach may be dilated. Ultrasonography is the screening procedure of choice, whereas upper endoscopy is indicated to differentiate idiopathic HPS from carcinoma or chronic peptic ulcer disease³. Medical management of peptic ulcer has limited its complications and decreased the need for surgical treatment. Surgery (either by resective or non-resective gastric procedures) may be the treatment of choice in selected patients with complications of peptic ulcer ^{4,5}.

Functional or non-ulcer dyspepsia is a diagnosis of exclusion. Many patients with non-ulcer dyspepsia have multiple somatic complaints, as well as symptoms of anxiety and they use psychotropic agents. The Rome II criteria⁶ can be helpful: patients with functional dyspepsia should have persistent or recurrent symptoms without evidence of organic disease and without evidence that dyspepsia is relieved exclusively by defecation or associated with the onset of a change in stool frequency or stool form. However, unaided clinical diagnosis in primary care is unreliable⁷.

Gastroesophageal reflux disease (GERD) with or without esophagitis is caused by the reflux of stomach contents into the esophagus⁸. This can lead to esophageal inflammation. Risk factors for GERD include smoking, alcohol, calcium antagonists, nitrates and theophylline. Predominant heart burn, heart burn relieved by an antacid and heartburn exacerbated by stooping or lying flat is thought to be helpful in diagnosis⁹.

Upper gastrointestinal cancer is rare in patients younger than 55 years and men are more than twice as likely to have upper gastrointestinal cancer at any given age⁹. Alarming features such as progressive dysphagia, anemia, and weight loss may indicate underlying malignancy. Palpable epigastric mass or enlarged supraclavicular (Virchow) node raises the concern of gastric malignancy.

Other possible diagnosis may include biliary tract disease, pancreatitis or systemic disorders (parasitosis, diabetes) etc. However, the history in our case makes these diagnoses rather unlikely. For example, biliary colic typically occurs in attacks with long periods of freedom from pain, which when it comes is located in the right upper quadrant and radiates to the tip of the shoulder.

In conclusion, since clinical diagnosis in vomiting and dyspepsia remains unreliable, alarming features such as dysphagia, weight loss, anemia or predisposing and risk factors for organic diseases indicate patients at higher risk for serious disease who should undergo further evaluation without delay¹⁰. Selected Differential Diagnosis of vomiting, epigastric pain, dyspepsia
 Condition Characteristics
 Functional or non-ulcer dyspepsia
 Diagnosis of exclusion; multiple somatic complaints, anxiety, use of psychotropic drugs; the Rome II criteria⁶ can be helpful; clinical diagnosis unreliable⁷
 Peptic ulcer disease-Pyloric stenosis
 Main causes: Helicobacter pylori and NSAIDs; periodic predominant epigastric pain or discomfort relieved with food; complications include pyloric stenosis manifested by vomiting, nausea, early satiety, weight loss, epigastric pain, especially after eating.
 Esophagitis or reflux without esophagitis
 Predominant heart burn, heart burn relieved by antacids and heartburn exacerbated by stooping or lying flat; risk factors: smoking, alcohol, calcium antagonists, nitrates and theophylline.
 Gastric or esophageal cancer
 Rare in patients < 55 years; men are more than twice as likely to suffer at any given age⁹; alarming features: progressive dysphagia, anemia, weight loss; search for palpable epigastric mass or enlarged supraclavicular (Virchow)
 Other (biliary track disease, pancreatitis etc)
 Clinical picture depends on disease; e.g. biliary colic typically occurs in attacks; pain is located in the right upper quadrant radiating to the tip of the shoulder.

Acknowledgements

This case was prepared for our website by Dr. Dimitrios A. Moutzouris, MD and Stylianos Manetas, MD, PhD.

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