

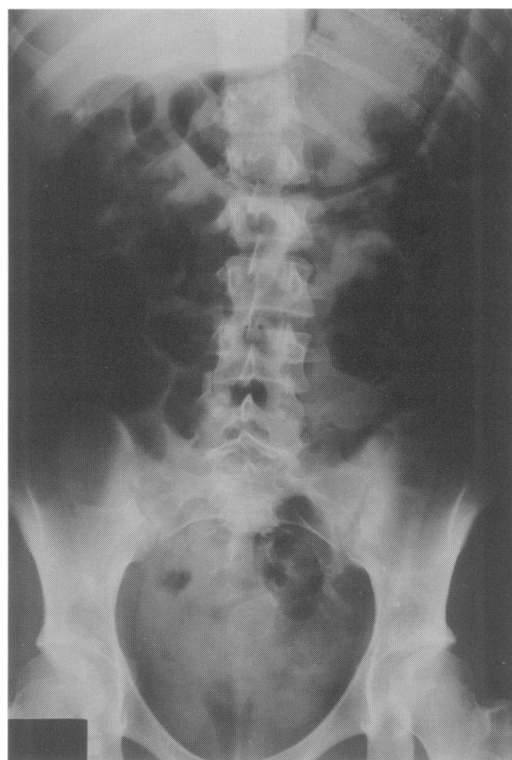
Self-assessment corner

A case of plastikophagia

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A 15-year-old girl presented with anaemia and several months history of anorexia, weight loss and nausea. She described feeling full after eating or drinking only very small amounts and complained of frequent postprandial vomiting. On further questioning she gave a history of eating plastic. This habit had started shortly after an orthodontic brace was removed. She had sucked on the brace and missed something in the mouth. Initially she chewed paper and plastic pen tops but subsequently she sucked and chewed her toothbrush. This gave her pleasure, especially when bored or doing homework.

On examination, she was found to be a pale, thin-looking girl weighing 47.5 kg (25th centile). Abdominal examination revealed a non tender smooth palpable mass in the left upper quadrant extending to 3 cm below the costal margin. Investigations revealed an iron-deficient anaemia (haemoglobin 7.9 g/l, ferritin <5 µg/l). The abdominal X-ray is shown in the figure.



Questions

- 1 What abnormality does the X-ray demonstrate?
- 2 What eating disorder has caused it?
- 3 What are the possible complications of this abnormality?

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Figure

Answers

QUESTION 1

The abdominal X-ray demonstrates a dilated stomach containing a large tissue mass, ie, a bezoar secondary to her pica. A laparotomy was performed and a large bezoar (20 × 13 × 6 cm) was delivered. The bezoar weighed 291 g and was made chiefly of tooth brush bristles. Considerable gastric mucosal inflammation was noted. Postoperatively she was given intravenous antibiotics and made an uneventful recovery. At follow-up she had managed to stop eating plastic, was not anaemic, had a good appetite and showed good weight gain.

QUESTION 2

Pica is the persistent eating of non-nutritive substances persisting for at least one month. The term is derived from the latin for magpie, a bird renowned for hoarding and eating inedible objects. When specific, it is sometimes termed a phagia, eg, plumbophagia (lead) or geophagia (soil, clay). Bizarre ingested substances include clay, laundry starch, cigarette ashes, ice, coffee, wooden toothpicks, coal and pebbles.¹ The incidence of this condition is not known. However, it is often linked to iron-deficiency anaemia² and is not infrequently observed in the mentally disturbed and learning disabled.³

Why pica should occur is unclear, although various psychological, nutritional, cultural and pharmacological theories have all been proposed. In our case, the patient had been an avid thumb sucker until her brace was fitted and the problem was seen as a habit, rather like nail-biting. She concluded that her ill health was linked with her penchant for plastic and refrained from further chewing, despite cravings.

QUESTION 3

Pica is of clinical importance if a marker for child neglect or if it leads to medical and

1 Moore DF, Sears DA. Pica, iron deficiency and the medical history. *Am J Med* 1994; 97: 390-3.

2 Crosby WH. Pica: a compulsion caused by iron deficiency. *Br J Haematol* 1976; 34: 341-2.

Presentation of a bezoar

- asymptomatic abdominal mass
- fullness, nausea & vomiting
- obstruction
- perforation

Box

surgical problems such as lead poisoning or intestinal obstruction. In this case a bezoar formed in the stomach, blocking the outlet and occupying almost the entire lumen. This caused irritation of the stomach and 'mass effect' giving the feeling of fullness, nausea and vomiting.

A bezoar is rarely a cause of upper gastrointestinal symptoms. However, obstruction may occur and is the most common surgical presentation of pica. Clinically this cannot be distinguished from other causes of obstruction. When obstruction occurs it is most frequent in the ileocaecal region because of the ileocaecal valves which trap the ingested material. Other possible sites of obstruction are the stomach, an intestinal stricture, or the colon, where it may be secondary to the slow passage of ingested material. Other presentations include asymptomatic abdominal masses or peritonitis secondary to increased pressure on the mucosa, causing ulceration, necrosis, and perforation of the gut.

Radiological investigations may be helpful in diagnosing undisclosed pica prior to laparotomy. Low-penetration plain X-rays may enhance pick-up.⁴

Final diagnosis

A bezoar secondary to pica.

Keywords: eating disorder, pica

3 Danford DE, Huber AM. Pica among mentally retarded adults. *Am J Ment Defic* 1982; 87: 141-6.

4 Vessal K, Ronaghy HA, Zarabi M. Radiological changes in pica. *Am J Clin Nutr* 1975; 28: 1095-8.