

CONTINUING MEDICAL EDUCATION ΣΥΝΕΧΙΖΟΜΕΝΗ ΙΑΤΡΙΚΗ ΕΚΠΑΙΔΕΥΣΗ

Medical Imaging Quiz – Case 32

An otherwise healthy 19-year-old female (BMI 23 kg/m²) was referred to our emergency department owing to acute, severe, diffuse colic pain and abdominal distension. Direct questioning, revealed excessive consumption of sugar-free ice-cream (1.5 kg) 7 hours ago. Physical examination was impressive for generalized abdominal distention and tympany. Symptoms and signs were so intense as to mimic intestinal obstruction. No symptoms and signs suggestive of peritonitis, large fluid shifts or systemic toxicity were present. The supine AP abdominal film revealed massive gaseous distention of the large bowel, including a very distended ascending and descending colon (reached 11 cm and 8 cm in diameter, respectively), and a distended low lying transverse colon. The erect AP abdominal film revealed a large fluid level in the ascending and descending colon, respectively (fig. 1). After 4.5 hours, the course of the episode was shifted to excessive flatulence which resulted in symptoms relief.



Figure 1. Erect AP abdominal film demonstrated a massive gaseous distention of the large bowel and a large fluid level in the ascending and descending colon.

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ΑΡΧΕΙΑ ΕΛΛΗΝΙΚΗΣ ΙΑΤΡΙΚΗΣ 2013, 30(5):634–635

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Comment

Abdominal distention and flatulence are complaints commonly attributed to consumption of sugar-free foods/drinks containing artificial sweeteners; however, remarkable bloating related to massive large bowel gaseous distention is relatively uncommon. Colonic intraluminal gases are mainly a product of bacterial fermentation of carbohydrates. Carbohydrates overload, ingestion of poorly absorbed carbohydrates, disaccharidase deficiency and bacterial overgrowth can generate increased production of colonic gases. In our patient's case, the mechanism of bloating and subsequent flatulence seemed to be the overload of poorly absorbed carbohydrates during excessive intake of sugar-free ice-cream. Although the course of our patient was uncomplicated, clinicians should take into account symptoms and signs suggestive of perforation in analogous cases.

Was further evaluation necessary? An extensive radiological and endoscopic evaluation of analogous patients is generally fruitless and should be avoided. Efforts should instead be directed at eliciting a detailed history (tab. 1). Appropriate investigation should be considered if abdominal distention and flatulence are accompanied by other symptoms such as diarrhea, hematochezia/melena, abdominal pain, or weight loss. Otherwise, dietary modifications directed towards limiting intake of fruit juices, poorly absorbed carbohydrates, such as cabbage, legumes, cauli-flower, broccoli

Table 1. Symptoms and signs suggesting air swallowing or bacterial fermentation as the cause of excessive flatulence.

Symptom or sign	Air swallowing	Bacterial fermentation
Increased eructation	Yes	No
Increased salivation	Yes	No
Gas is stress related	Yes	No
Gas is meal related	No	Yes
Abdominal bloating	Yes	Yes
Malodorous gas	No	Yes
Nocturnal gas	No	Yes

and Brussel sprouts, high-carbohydrate containing beverages, and sugar-free foods/drinks or liquid medications, may need enforced.

References

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