ENDGAMES

We welcome contributions that would help doctors with postgraduate examinations
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PICTURE QUIZ An unusual case of epigastric pain

A 56 year old man presented with a seven day history of worsening epigastric pain associated with nausea and belching. He had a history of splenectomy (after trauma), hyperlipidaemia, obesity, and Bell's palsy. Abdominal computed tomography in 2007 had shown multiple abdominal nodules consistent with splenunculi but nothing else of note (splenunculi are accessory "miniature spleens" composed of normal splenic tissue that can partially compensate and take over the vital functions of the spleen after splenectomy). He had recently been prescribed orlistat to facilitate weight loss and had been taking the drug for about 10 days before the onset of symptoms.

On examination, he was haemodynamically stable, his temperature was 37.5ºC, and his abdomen was soft but tender in the epigastric region and left iliac fossa. Digital rectal examination did not identify blood, masses, or melaena. Blood tests showed a mild neutrophilia (8.4×10^9/L; reference range 1.7-8.0) and raised C reactive

protein (102.4 mg/L; 0-7.5; 1 mg/L=9.52 mmol/L), but normal liver biochemistry, renal function, and concentrations of amylase and lipase. While awaiting inpatient oesophagogastroduodenoscopy, his inflammatory markers deteriorated and his abdominal pain persisted, even though he was given appropriate analgesia and a high dose of a proton pump inhibitor. Contrast enhanced computed tomography of his abdomen was arranged to rule out an intra-abdominal collection (figs 1 and 2).

1. What do the images show?

2. What is the diagnosis?

3. What further investigations would you undertake after you make the diagnosis?

4. What treatment would you start?

5. What are the potential complications of this condition?

Submitted by Yanushi Dullewe Wijeyeratne and Nicola Walters
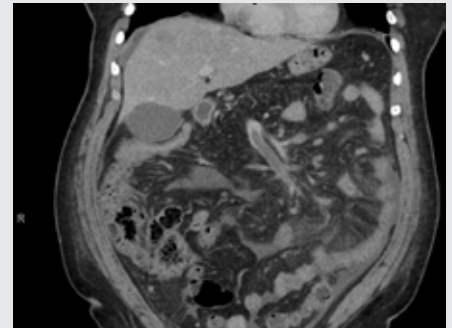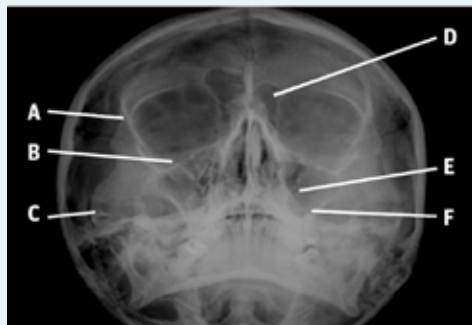
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Fig 1

Fig 2

ANATOMY QUIZ

Anatomy of the facial skeleton

Identify the structures labelled A, B, C, D, E, and F in this plain radiograph (occipitomental view, 10º) of the facial skeleton.

Submitted by Peter Glen

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STATISTICAL QUESTION

Unit of observation versus unit of analysis

Researchers investigated the effects of a school based educational programme aimed at reducing the consumption of carbonated drinks to prevent weight gain in children aged 7-11 years. A cluster randomised controlled trial study design was used. The programme, which was delivered over one school year, focused on promoting a healthy diet. The control group received no intervention. Six primary schools in southwest England were recruited and 29 classes were involved in the trial. Classes were randomised to treatment, with 15 classes allocated to the educational programme (325 children) and 14 to the control treatment (319 children).

The outcome measures included consumption of carbonated drinks. Each child recorded the number of glasses (average size 250 mL) that he or she drank over a three day period at baseline and at the end of the trial, and the change

from baseline was obtained. For each class (the cluster), the average change in consumption of carbonated drinks across all children was derived. The treatment groups were compared with regard to the average change within clusters. Over one school year, the consumption of carbonated drinks decreased by a mean of 0.6 glasses per cluster in the intervention group but increased by 0.2 glasses per cluster in the control group (mean difference 0.7, 95% confidence interval 0.1 to 1.3).

Which of the following statements, if any, are true?

a) The unit of observation was the class

b) The unit of analysis was the class

c) It can be assumed that the measurements for children within a class (cluster) were independent of each other

Submitted by Philip Sedgwick

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