

ENDGAMES

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PICTURE QUIZ

A reticulated eruption on the lower abdomen in a 17 year old girl

A 17 year old girl presented with a net-like brownish eruption on her lower abdomen that had appeared nine months previously (figure). It was asymptomatic and showed no tendency to spread. She was otherwise healthy, apart from having had an appendicectomy three years earlier. On further questioning, she admitted that she often applied hot water bottles to her abdomen for pain relief because she had been experiencing recurrent abdominal cramps since the operation. The time between the use of the hot water bottles and the onset of the eruption was unclear.



- 1 How would you describe this rash?
- 2 What is the probable diagnosis?
- 3 Why is it important not to miss the diagnosis?
- 4 How should this condition be managed?

Submitted by A C Seghers and S Breathnach
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CASE REPORT

Chest pain and ST elevation

A 53 year old Vietnamese man developed chest pain at rest and dialled the emergency services. The ambulance service identified ST elevation on 12 lead electrocardiography (ECG) and according to local protocol brought him direct to our cardiac centre with a suspected ST elevation myocardial infarction. On arrival he reported a three hour history of central chest pain without radiation or associated symptoms. He was a current smoker but had no other risk factors for coronary artery disease. Examination was unremarkable and an ECG was performed on arrival. In lead V1 there was 2 mm of coved J point elevation, with an inverted T wave. In V2 there was 4 mm of J point elevation, with a saddle shaped ST segment and an upright T wave. In V3 the J point, ST segment, and T wave were within normal limits. He underwent immediate coronary angiography, which showed mild atheroma in the left anterior descending artery, but no obstructive lesions, and transthoracic echocardiography showed normal cardiac structure with good biventricular function.

Overnight he developed a productive cough associated with a fever. Serial ECGs were recorded while he was febrile and showed 3 mm of coved J point elevation in lead V1 and 5 mm of coved J point elevation in V2, with associated T wave inversion.

On further questioning he admitted to a history of well tolerated intermittent palpitations of up to an hour's duration. His father had died suddenly and unexpectedly by falling from a bridge, but otherwise his family history was unremarkable. He was started on oral antibiotics and monitored in hospital until his fever had resolved. A loop recorder was subsequently implanted to investigate his palpitations. He was also advised to stop smoking and treated with aspirin and statins for coronary atheroma.

- 1 What are the causes of ST elevation?
- 2 What is the clinical diagnosis?
- 3 What specific advice would you give?

Submitted by Stephen P Page, Andrew Archbold, and Dominic J Abrams
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STATISTICAL QUESTION

Cluster randomised controlled trials

Researchers investigated whether a systematic approach to the treatment of pain reduced agitation in people with moderate to severe dementia living in nursing homes. A cluster randomised controlled trial study design was used. The intervention comprised a stepwise protocol for the treatment of pain for eight weeks, with additional follow-up lasting four weeks from the end of treatment. The control group received the usual treatment and care.

A sample of 352 residents living in 60 nursing home units across five municipalities of western Norway was identified. Each nursing home unit was independent, with no crossover of staff, and defined as a natural cluster for the purpose of the trial. Residents were eligible if they were aged 65 or older and had moderate to severe dementia and clinically significant behavioural disturbances. In total, 175 residents living in 33 clusters were randomised to intervention, and 177 residents living in 27 clusters were

randomised to control. The primary outcome was agitation as measured on the Cohen-Mansfield agitation inventory. The researchers reported that the systematic approach to pain management significantly reduced agitation in residents of nursing homes with moderate to severe dementia.

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

- a) The nursing home units were randomised to treatment group.
- b) All residents within a nursing unit had an equal probability of being randomised to intervention or control.
- c) The cluster of residents—the independent nursing home unit—was the unit of observation.
- d) Cluster trials are prone to the ecological fallacy.

Submitted by Philip Sedgwick
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