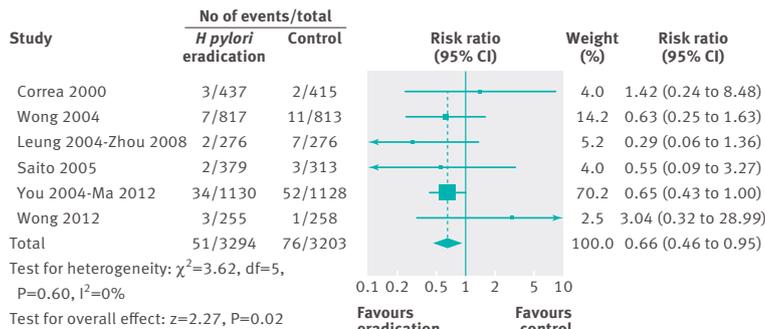


# ENDGAMES

We welcome contributions that would help doctors with postgraduate examinations. We also welcome submissions relevant to primary care. See [thebmj.com/endgames](http://thebmj.com/endgames) for details

FOLLOW ENDGAMES ON TWITTER @BMJEndgames  
FOR SHORT ANSWERS See p 18  
FOR LONG ANSWERS Go to the Education channel on [thebmj.com](http://thebmj.com)

## STATISTICAL QUESTION How to read a forest plot in a meta-analysis



Forest plot of randomised controlled trials of *Helicobacter pylori* eradication therapy: effect on subsequent occurrence of gastric cancer

Researchers undertook a meta-analysis of the effect of treating *Helicobacter pylori* with eradication therapy on the subsequent occurrence of gastric cancer. Randomised controlled trials were included if the intervention consisted of seven days or more of eradication therapy, and if the control treatment was placebo or no treatment. Participants were adults who tested positive for *H pylori*. They were otherwise healthy and asymptomatic at baseline and were followed for two or more years. The primary outcome was the diagnosis of gastric cancer.

Six randomised controlled trials were eligible for inclusion. The results of the meta-analysis comparing the intervention with control treatment in the occurrence of gastric cancer were presented in a forest plot (figure). Fifty one (1.6%) gastric cancers occurred in 3294 participants who received eradication therapy compared with 76 (2.4%) in 3203 control subjects (relative risk 0.66, 95% confidence interval 0.46 to 0.95).

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

- All six trials showed a significant difference between eradication therapy and control treatment in the risk of gastric cancer
- The forest plot is drawn on a logarithmic scale
- A risk ratio greater than 1.0 indicates an increased risk of gastric cancer with the control treatment compared with eradication therapy
- The total overall estimate of the population risk ratio indicated that eradication therapy led to a 34% lower risk of gastric cancer compared with the control treatment
- Significant heterogeneity existed between the sample estimates of the population risk ratio of gastric cancer

Submitted by Philip Sedgwick  
Cite this as: [BMJ 2015;351:h4028](http://BMJ 2015;351:h4028)

## CASE REVIEW

### Difficult access in the anaesthetic room leads to a difficult diagnosis

A 50 year old man was admitted for laser ablation of the left long saphenous vein to treat his symptomatic varicose veins. In the anaesthetic room he was noted to have unusually tough skin and rather large hands during cannulation. This was confirmed when the operating surgeon attempted to cannulate the long saphenous vein to perform the endovenous laser ablation—the thickness of his skin made this difficult. He also had bigeminy on heart monitoring and a prominent jaw.

In clinic he said that he had always had large hands and put this down to being “muscly,” having worked in a garage all his life. He had surgery for carpal tunnel decompression in 2005, and he had longstanding muscle aches. His visual fields were normal, his shoe size was 9, and he snored excessively at night.

- What is the likely diagnosis and what are the initial investigations needed to diagnose it?
- What pathophysiology underpins this condition?
- What are the most common clinical findings?
- How is this condition treated?

Submitted by Sarah Crabtree, Danielle Lowry, Alok Tiwari, and Neil Gittoes  
Patient consent obtained.

Cite this as: [BMJ 2015;350:h3430](http://BMJ 2015;350:h3430)

## SPOT DIAGNOSIS

### Twelve lead electrocardiography after collapse

In the percutaneous coronary intervention unit this patient had a heart rate of 45 beats/min and a blood pressure of 70/40 mm Hg, neither of which responded to atropine and fluid resuscitation. His Glasgow coma score (GCS) was recorded as 7/15. What does the 12 lead electrocardiograph show (fig 1), and what urgent treatment is needed?

Submitted by Ben Lovell and Hilary Connor  
Cite this as: [BMJ 2015;351:h3512](http://BMJ 2015;351:h3512)



### CASE REVIEW

#### Difficult access in the anaesthetic room leads to a difficult diagnosis

- 1 The most likely diagnosis is acromegaly. Initial tests include measurement of insulin like growth factor 1 (IGF-1) and growth hormone, as well as growth hormone response to glucose tolerance test. If indicated, these should be followed by magnetic resonance imaging of the pituitary and visual field tests.
- 2 Acromegaly is usually caused by excessive secretion of growth hormone by a pituitary adenoma. Rarely it is caused by ectopic secretion of growth hormone releasing hormone (GHRH) by a neuroendocrine tumour.
- 3 Those caused by the space occupying effects of the pituitary adenoma include headaches and visual field defects (most commonly bitemporal hemianopia). Ones caused by excess of growth hormone include enlargement of head, hands, and feet; macroglossia; peripheral paraesthesias; carpal tunnel syndrome; type 2 diabetes; hypertension; and obstructive sleep apnoea.
- 4 Trans-sphenoidal surgical excision is the treatment of choice for most growth hormone secreting pituitary adenomas, particularly if it offers a realistic chance of total tumour clearance or it will reduce the tumour mass effect in patients with compression of the optic chiasm. Drugs include somatostatin analogues and dopamine agonists, while radiotherapy may be used adjunctively.

### STATISTICAL QUESTION

#### How to read a forest plot in a meta-analysis

Statements *b* and *d* are true, whereas *a*, *c*, and *e* are false.

### SPOT DIAGNOSIS

#### Twelve lead electrocardiography after collapse

The electrocardiograph shows a tremulous baseline, marked J waves, bradycardia, and prolonged QTc interval in keeping with profound hypothermia (fig 2). The patient needs urgent re-warming therapy, including warmed intravenous fluids, warm bladder washout/irrigation, and external heating treatments.

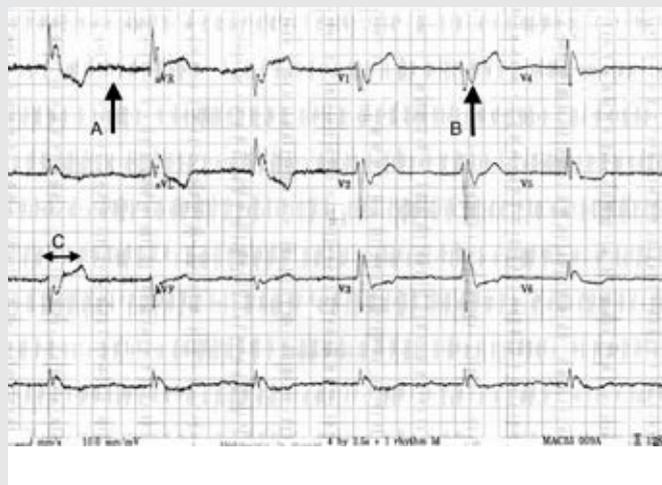


Fig 2 | Twelve lead electrocardiograph showing a tremulous baseline (arrow A), marked J waves (arrow B), bradycardia, and prolonged QTc (arrow C)