

# ENDGAMES

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## STATISTICAL QUESTION

### Randomised controlled trials: tests of interaction

Researchers evaluated the efficacy of an intervention based in general practice on the occurrence of repeat episodes of deliberate self harm. A cluster randomised controlled trial study was performed, involving 98 general practices. The intervention consisted of a letter from the general practitioner inviting the patient to consult, with guidelines on the assessment and management of deliberate self harm for the GP to use in consultations. The control treatment was standard care. Participants were patients registered with one of the study practices who had attended an emergency department after an episode of deliberate self harm (referred to as the index episode). A total of 1932 patients were recruited; 964 were allocated to the intervention and 968 to the control.

The primary outcome was a repeat episode of deliberate self harm in the 12 months after the index episode (categorised as yes or no). Although a higher proportion of patients had a repeat episode of deliberate self harm in the intervention group than in the control group, the difference was not significant (21.9% (n=211) v 19.5% (n=189); odds ratio 1.2, 95% confidence interval 0.9 to 1.5; P=0.16). No significant interaction existed between the treatment group and the patient's sex (P=0.51) or the method used to cause self harm (categorised as poisoning, laceration, or other) (P=0.64). A significant interaction existed between the treatment group and a history of deliberate self harm before the index episode (categorised as yes or no) (P=0.017). A subsequent subgroup analysis showed an apparent benefit of the intervention for patients with a history of deliberate self harm (0.57, 0.33 to 0.98), but an adverse effect for patients in whom the index episode was the first occurrence of deliberate self harm (1.32, 1.02 to 1.70).

The researchers concluded that the intervention did not reduce the incidence of repeat self harm. Although the intervention had an apparent benefit for patients who had previously harmed themselves and an adverse effect for those with no history of self harm, it was suggested that the result be viewed with caution because it was inconsistent with previous research.

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

- The treatment effect was of a similar magnitude and direction for men and women
- The treatment effect was of a similar magnitude and direction for the subgroups with and without a history of deliberate self harm before the index episode
- The subgroup analyses based on history of deliberate self harm may have lacked statistical power

Submitted by Philip Sedgwick

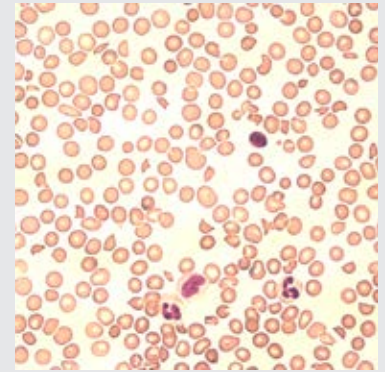
Cite this as: *BMJ* 2014;349:g6820

## PICTURE QUIZ

### A man with transient ischaemic attack and thrombocytopenia

A 51 year old man presented to the emergency department with sudden onset of right upper limb weakness and slurring of speech, associated with intermittent headaches. He had no medical history of note. He had smoked 10-15 cigarettes a day for 30 years and had no history of excessive alcohol intake. Neurological examination showed weakness of the upper motor neurones of the right upper limb and right side of the face, but no other neurological signs. Cardiac, respiratory, and abdominal examinations were normal. The neurological signs spontaneously recovered within four hours, and computed tomography of the brain showed no abnormalities.

Full blood counts showed low haemoglobin (92 g/L; normal range 130-180), a low platelet count ( $28 \times 10^9/L$ ; 140-440), and a high neutrophil count ( $11 \times 10^9/L$ ; 2-8). A blood smear showed red blood cells with morphological abnormalities (figure). His absolute reticulocyte count ( $235 \times 10^9/L$ ; 50-100) and serum lactate dehydrogenase (814 U/L; 125-243) were raised, and serum haptoglobin was undetectable; however, his bilirubin concentration was normal. A direct antiglobin test was negative.



His prothrombin time, activated partial thromboplastin time, and fibrinogen concentration were within normal limits. Serum creatinine, liver function tests, lipid profile, and iron studies were also within the normal ranges.

- Describe the findings on the blood film?
- What is the most likely diagnosis in this patient?
- What are the differential diagnoses?
- What additional investigations are needed?
- How should the patient be managed and what is the prognosis?

Submitted by Muhajir Mohamed and Jocelyn Tan  
Patient consent obtained.

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## ANATOMY QUIZ

### Longitudinal ultrasound image of the posterior ankle



Identify the structures labelled A, B, C, and D in this longitudinal ultrasound image of the posterior ankle.

Submitted by Shoab Ahmad and Jemima Richelle Dubif

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### STATISTICAL QUESTION

#### Randomised controlled trials: tests of interaction

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

### ANATOMY QUIZ

#### Longitudinal ultrasound image of the posterior ankle

- A: Kager's fat pad
- B: Retrocalcaneal bursa
- C: Achilles tendon
- D: Calcaneus

### PICTURE QUIZ

#### A man with transient ischaemic attack and thrombocytopenia

- 1 His blood film shows an abundance of schistocytes, a few spherocytes, polychromasia, and thrombocytopenia. These features are suggestive of microangiopathic haemolytic anaemia.
- 2 Thrombotic thrombocytopenia purpura (TTP).
- 3 Other conditions that cause microangiopathic haemolytic anaemia and thrombocytopenia include haemolytic uraemic syndrome, disseminated intravascular coagulation, atypical haemolytic uraemic syndrome, cancer, drugs, infections (such as HIV), vasculitis, and pregnancy associated thrombotic microangiopathies.
- 4 Because TTP is considered a medical emergency, its initial diagnosis should be based on clinical evaluation of the patient and examination of a blood film. Measurement of low ADAMTS13 activity by laboratory tests will support the diagnosis. Additional tests may be needed to exclude other causes of microangiopathic haemolytic anaemia that mimic TTP.
- 5 Therapeutic plasma exchange is the mainstay of the management of acute idiopathic TTP. With current treatment modalities, the prognosis of TTP is good, with mortality rates of less than 10%.