

ENDGAMES

We welcome contributions that would help doctors with postgraduate examinations

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PICTURE QUIZ

Helsinki -20°C



A 36 year old unemployed man with a history of depression and heavy alcohol consumption presented to the local accident and emergency department with injuries to both feet. The previous night he had been drinking heavily. He had attempted to return home but did not make it and had spent the entire night sleeping outside in a snow drift.

He was otherwise fit and well with no allergies, and the only drug that he took regularly was citalopram for his depression.

On arrival, he was systemically well with a normal core temperature. Bilateral foot injuries were noted (figure). The more severely affected right foot had a dusky ischaemic appearance, with a clear temperature change at the level of the ankle joint and absent distal pulses. The toes of the left foot were also dusky and cool, with blistering over their dorsal aspect. The distal pulses were weakly palpable in this foot. The patient had no other injuries and all other systems examinations were normal.

- 1 On the basis of the history and examination findings, what is the likely diagnosis?
- 2 What are the predisposing risk factors for this condition?
- 3 What investigations might you consider to confirm your diagnosis?
- 4 How is this condition treated?
- 5 What is the role of surgery in this condition?

Submitted by Andrew J Lindford and Jyrki Vuola

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STATISTICAL QUESTION

Multiple significance tests: the Bonferroni correction

Researchers assessed the effects of hormone replacement therapy (HRT), consisting of combined oestrogen and progestogen, on health related quality of life. A randomised placebo controlled, double blind trial study design was used. Women were recruited if they were postmenopausal, had a uterus, and were aged 50-69 at randomisation. Outcome measures included health related quality of life and psychological wellbeing. The study period was one year.

The researchers investigated the effects of combined hormone replacement therapy compared with placebo at one year, using a 0.05 (5%) critical level of significance and adjusting this with the Bonferroni correction. The researchers concluded that combined HRT started many years after the menopause can improve health related quality of life.

For which of the following does the Bonferroni correction reduce the probability of occurring?

- a) Type I error
- b) Type II error

Submitted by Philip Sedgwick

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CASE REPORT

A woman with rapidly progressive weakness and sensory loss

A 61 year old woman presented to the accident and emergency department with progressive weakness of the lower limbs and a feeling of her legs being "frozen" over the preceding four days. Ten days earlier, she had contracted a flu-like illness and was diagnosed and treated with oseltamivir (Tamiflu) for presumed swine flu. She was later found to be influenza A/H1N1 seropositive on the reference laboratory haemagglutination assay. Her medical history included cervical spondylosis for which she had decompressive laminectomy (C4-7) in 1992 and a Cloward's discectomy with bone graft and fusion of C5-7 in 1996.

On examination she had a score of 15 on the Glasgow coma scale and was afebrile, with normal pulse and blood pressure. She had an ataxic gait and could not walk unaided. She also had Medical Research Council grade 3/5 symmetrical weakness of the lower limbs, in addition to absence of leg reflexes and flexor plantars. Sensation was reduced over her left thigh. Her left arm was weak in the triceps and biceps, grade 3/5; thumb abduction was reduced bilaterally, grade 4/5; left

triceps and right supinator reflexes were absent. Cranial nerves and the rest of the neurological examination were normal.

Magnetic resonance imaging of the cervical spine showed degenerative changes that caused narrowing of the spinal canal between C5 and C7 but did not affect the spinal cord or nerve roots; in addition no intrinsic spinal cord abnormality was seen. Magnetic resonance imaging of the brain was normal. The cerebrospinal fluid contained 1 g protein/L (reference range 0-0.5) and 22×10^6 white blood cells/L (0.5×10^6) (85% lymphocytes, 15% polymorphs).

- 1 Which neurological condition is the most likely diagnosis?
- 2 Which investigations will confirm the diagnosis?
- 3 What was likely to have triggered the condition in this patient?
- 4 How would you manage a patient with this condition?

Submitted by Natalie J Attreed and Simon A Shields

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