

ENDGAMES

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PICTURE QUIZ A man with tingling fingers

A 73 year old man with a three month history of bilateral persistent tingling in the index and middle fingers presented to his general practitioner. He was referred for an injection for suspected carpal tunnel syndrome. When he attended, as well as the tingling sensation, he described loss of fine motor function in his hands, with altered sensation in both legs and his inner thighs. Examination at this time showed no objective sensory loss in either hand. Phalen's test and Tinel's test were both negative. His upper limb tendon reflexes were normal.

Because of his new motor and lower limb symptoms, his GP referred him to an outpatient neurology clinic. At the clinic, he said that he had first noticed his symptoms while gardening. The tingling in his fingers was now present constantly. When he bent down to tie his shoes it worsened in his arms and travelled down his back. Lately he had struggled to fasten buttons and was having trouble writing. He also had slight numbness in both legs. He denied loss of power or perineal numbness and had no bowel, bladder, or erectile problems. He had no medical history of note and was taking no drugs.

On examination, his fundi and cranial nerves were normal. He had weakness of the right abductor pollicis brevis and abductor pollicis opponens

muscles. Touch, pinprick, temperature, vibration, and proprioception were not impaired. With his arms outstretched and eyes closed, his fingers moved constantly. All his tendon reflexes were present and equal, including the supinators. His plantars were downgoing. Lower limb neurological examination demonstrated normal power, coordination, and sensation, except for an unsteady gait.

A full blood count showed that he had macrocytic anaemia (mean corpuscular volume 118.9 fL; reference range 77-95; haemoglobin 102 g/L; 130-180). Magnetic resonance imaging was performed (figs 1 and 2).

- 1 What are the names of the two signs (constant finger movement and exacerbation of symptoms on looking down) described and to where do they localise the patient's disease?
- 2 What do the magnetic resonance imaging scans show?
- 3 How do the imaging and blood results further narrow the differential diagnosis suggested from the clinical history and examination?

Submitted by Neal Larkman, Oliver Hulson, and Mark Gilhooly

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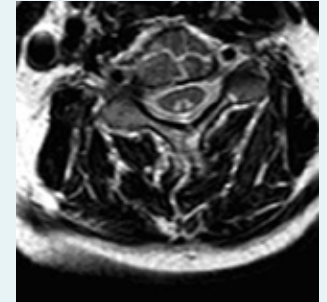


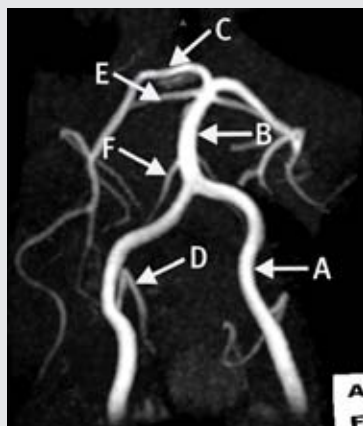
Fig 1 | T2 weighted axial magnetic resonance imaging scan of the cervical spine



Fig 2 | T2 weighted sagittal magnetic resonance imaging scan of the cervical spine

ANATOMY QUIZ

Magnetic resonance angiography of the posterior circulation



T2 weighted sagittal magnetic resonance angiography scan of the cervical spine

Identify the structures labelled A-F in this image from magnetic resonance angiography of the posterior circulation.

Submitted by Michael A Kadoch and Thomas J Ward

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STATISTICAL QUESTION

Variables, sample estimates, and population parameters

Researchers evaluated the effect of initial trophic feeding compared with full enteral feeding on physical function in patients with acute lung injury. A cluster randomised controlled trial study design was used. In total, 525 patients with acute lung injury admitted to hospital were recruited. Participants were randomised to low energy permissive underfeeding ("trophic feeding") or full energy enteral feeding ("full feeding") for up to six days; thereafter, all patients still receiving mechanical ventilation received full feeding.

The primary outcome was blind assessment of the physical function domain of the SF-36 instrument, adjusted for age and sex, 12 months after acute lung injury. Secondary outcome measures included survival; physical, psychological, and cognitive

functioning; quality of life; and employment status at six and 12 months. No significant difference was seen between initial trophic and full enteral feeding in mean SF-36 physical function at 12 months (55 (standard deviation 33) v 55 (31)). It was concluded that, in survivors of acute lung injury, there was no difference in physical function at 12 month follow-up after initial trophic or full enteral feeding.

Which of the following describe the mean SF-36 physical function scores at 12 month follow-up?

- a) Point estimates
- b) Population parameters
- c) Sample estimates
- d) Variables

Submitted by Philip Sedgwick

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