

**ROYAL AUSTRALASIAN COLLEGE OF SURGEONS**

**FELLOWSHIP EXAMINATION**

**NEUROSURGERY**

**FIRST PAPER - 2 HOURS**

**Wednesday, 3 May 2006**

**All Questions must be answered and are of equal value**

**Question 1**

A 67 year-old previously well male is struck by a car while crossing a road and is admitted to hospital under your care. His Glasgow Coma Score (GCS) prior to intubation at the scene was 5 (E0 V2 M3). He had one period of hypotension of 70mm Hg systolic, which normalised with intravenous crystalloid. After resuscitation in the Emergency Department, he had a head CT, which showed traumatic subarachnoid blood, small, scattered left frontal and temporal contusions and an acute left subdural frontoparietal haematoma with 5mm shift of the midline structures to the right. An x-ray of the hips, and pelvis showed fractures of the right pubis and left ilium.

- (a) Outline your management of this patient in the first 48 hours after admission.
- (b) You are notified that the intracranial pressure (ICP) has risen to 25mmHg for the last 30 minutes. Describe your stepwise plan of management.
- (c) Briefly describe the potential causes of secondary brain injury in this situation.
- (d) What are the clinical parameters which are associated with prognostic value in predicting outcome in this patient?

**Question 2**

Write short notes on the following :

- (a) Chiari malformation
- (b) Post-traumatic anterior cranial fossa CSF leakage
- (c) Dysembryoplastic Neuroepithelial Tumours
- (d) Compression of the lateral cutaneous nerve of the thigh
- (e) Surgical access to the 3rd ventricle

**Question 3**

**Neurosurgery MCQ Paper - (30 questions - 30 minutes). Please follow instructions as detailed on accompanying MCQ Papers**



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FELLOWSHIP EXAMINATION IN NEUROSURGERY

SECOND PAPER - 2 HOURS

Wednesday, 3 May 2006

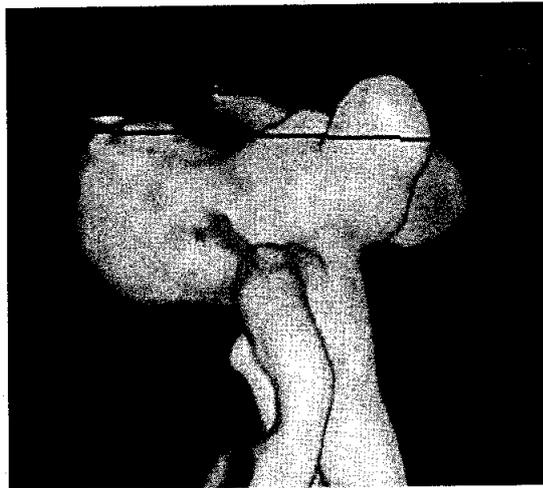
All Questions must be answered and are of equal value

**Question 4**

A previously healthy 25 year-old male presents with a generalised headache. On examination there is some loss of vertical gaze, but no other findings. A MRI reveals a 2cm solid lesion in the pineal region with mild hydrocephalus.

1. Discuss the pathology of pineal tumours
2. Describe MRI characteristics of pineal tumours
3. Describe the anatomical basis and the clinical features of Parinaud's syndrome
4. List specific pre-operative investigations
5. List treatment options
6. Describe the surgical approach to the pineal gland that you would favour, and possible complications of your approach

**Question 5**



The photographed aneurysm measures 7mm and is located at the apex of the basilar artery. This aneurysm belongs to a 45 year-old female who has been otherwise well. She has been referred by a Neurologist with a letter that states:

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"Thank you for agreeing to see Mrs Smith. She had a CT scan for a minor head injury and has had the serendipitous discovery of this small aneurysm. I have tried to reassure her that the recent evidence from the International Study of Unruptured Intracranial Aneurysms (Lancet 2003) would make this unsuitable for treatment because it is small. She wishes to have a second opinion, and I would like you to see her for this purpose."

- a. What are the methods of treating these aneurysms and what is the risk involved in these treatments?
- b. Mrs Smith wishes you to write down your recommendation so that she and her family can think about what you have recommended. Write a letter that will help Mrs Smith understand your recommendations.
- c. Write a letter in response to the referring Neurologist explaining your position.
- d. It comes to light that her sister was found to have a serendipitous aneurysm and her father died suddenly at a young age. What would your recommendations be for Mrs Smith's children (aged 15, 20 and 25) and why?

#### **Question 6**

Write short notes on the following :

- a. Glossopharyngeal neuralgia
- b. Complications following transsphenoidal hypophysectomy for pituitary adenoma.
- c. The diagnosis of brain death.
- d. Lumbar spinal disc space infection
- e. Atlanto-axial instability with a description of the appropriate anatomy.