



ROYAL AUSTRALASIAN COLLEGE OF SURGEONS

PART 2 EXAMINATION FOR FELLOWSHIP

NEUROSURGERY

FIRST PAPER - 2 Hours

MONDAY, 28 APRIL, 2003

Questions 1 and 2 must be answered and are of equal value

Question 1:

A 34 year old woman, married with two children and working as a secretary, presents with a six month history of increasing numbness in the hands and lower limbs. More recently she has noticed difficulty typing, unsteadiness of gait and some difficulty with micturition.

Examination findings include a minor spastic paresis with increased deep tendon reflexes in the lower limbs and upgoing plantar responses. The deep tendon reflexes in the upper limbs are reduced. There is a patchy decrease in sensation to pinprick and light touch extending over the whole of the lower limbs on to the lower trunk and also involving the medial aspect of the hands, forearms and upper arms. Joint position sense is impaired in the lower limbs. An MRI shows an expanded intramedullary lesion which is irregularly enhancing, extending from the C4 to the T1 level, with a syrinx extending cranially to the cervico-medullary junction.

- a) Discuss the differential diagnosis and the preoperative assessment of the patient
- b) Describe the anatomical basis for the neurological symptoms and signs.
- c) Describe the discussion you will have preoperatively with the patient and her relatives
- d) Discuss the principles of surgery and describe the operative technique
- e) Discuss the postoperative management including the use of adjuvant therapies
- f) Discuss the prognosis for the patient

Question 2

A 45 year old male presents with progressive visual failure and panhypopituitarism. On examination he exhibits bilateral optic atrophy and a bitemporal hemianopia is found on visual testing. Visual acuity is reduced to 6/12 in each eye with reduced colour vision. MRI shows a partly cystic lesion in the suprasellar region with chiasmatal compression and extension toward the 3rd ventricle.

- a) Discuss the differential diagnosis and the applicability of any further diagnostic modalities in this case.
- b) What are the treatment options available?
- c) Describe in detail the surgical approach to craniopharyngioma.
- d) Discuss the preoperative and postoperative management of such a patient
- e) What is the prognosis for his (a) vision (b) pituitary function in the short and long term

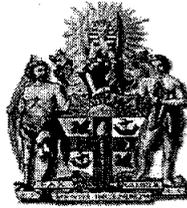
Question 3

Write short notes on :

- a) Intracranial tumour
- b) The Glasgow Outcome Scale
- c) Treatment of established vasospasm following subarachnoid haemorrhage
- d) Unilateral foot drop
- e) Neurosurgical applications of functional MRI scanning

Question 4

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



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SECOND PAPER - 2 Hours

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ALL Questions must be answered and are of equal value

Question 5:

A 24 year old right handed mechanic crashes at high speed from his motorbike. On examination within hours of the accident he is found to have a flaccid paralysis of his right arm with complete sensory loss from C5 to T1. He does not have a Horner's syndrome.

There has been no recovery of motor function but some recovery of sensory function by 2 weeks.

- a) Discuss the classification of brachial plexus injury
- b) Discuss your evaluation of this patient including the role of electrodiagnostic tests and imaging.
- c) Outline the advice you would give to this man regarding his prognosis for future function of the arm
- d) Discuss the indications and timing of surgical exploration

Question 6

Write short notes on the following

- a) Intraventricular neurocytoma
- b) Atypical meningioma
- c) Neurofibromatosis type II
- d) Laboratory investigations for the diagnosis of Cushing's disease
- e) Prion disease and neurosurgery