



ROYAL AUSTRALASIAN COLLEGE OF SURGEONS

Fellowship Examination 2012

Neurosurgery

Written Paper One

Tuesday 14 August 2012

Reading Time: «Paper_1_Reading_Time»

Writing Time: «Paper_1_Writing_Time»

QUESTION BOOK

<i>Section</i>	<i>Number of Questions to be Answered</i>
Essay Questions	3

Candidates are permitted to bring into the examination room:

- Pens
- Pencils
- Erasers

Candidates are not permitted to bring into the examination room:

- Blank sheets of paper
- White-out liquid/tape

Materials supplied:

- Question Book of 4 pages
- Answer Book

Instructions to candidates:

- Write your candidate number on the front of each Answer Book.
- Write your response in the Answer Book provided.
- All answers must be written in English.

At the end of the examination, candidates are to leave the Question Book and Answer Book on their desk.

Candidates are not permitted to remove the Question Book from the examination room.

Candidates are NOT permitted to bring mobile phones and/or any other unauthorised devices into the examination room.

Essay Questions

Write your response in the answer book provided.

Clearly number the question you are answering.

Question 1

A 35 years old lady presents with a history of frequent episodes of speech arrest refractory to anticonvulsant medication and increasing headache over 15 months. Images from her MRI are shown in Figure 1 and 2.

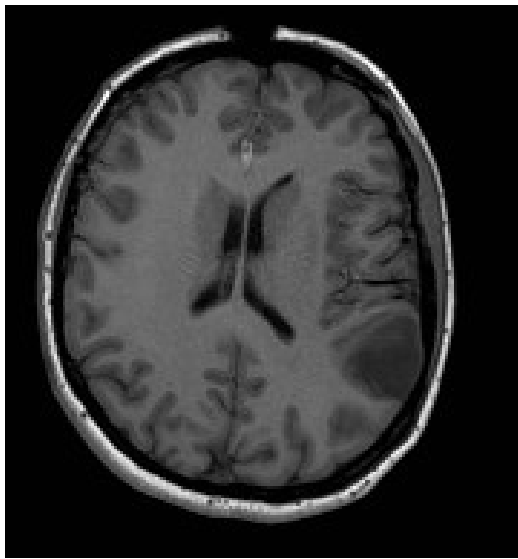


Figure 1

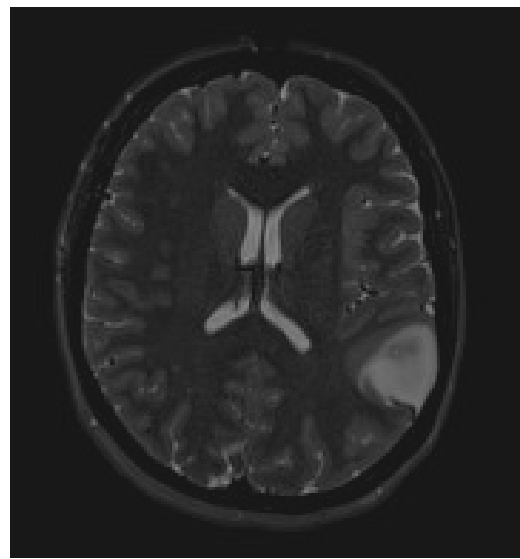


Figure 2

- A. State the differential diagnosis of the above imaging and outline other imaging that would be of help in the preoperative diagnosis/ assessment of this lesion.
- B. State your surgical management procedure in the theatre with an emphasis on the details of the surgery to be undertaken and its complications.
- C. If the pathology demonstrates a WHO grade 2 glioma, discuss your further management options and prognosis with the patient. Outline the scientific evidence for your management options.
- D. List the principle genetic abnormalities that can distinguish between primary and secondary gliomas.

Question 2

A 10 month old, first child of anxious parents, both of whom lawyers, come to see you following a referral from a paediatric neurologist. The child was born at 32 weeks following an uneventful pregnancy. At birth, the child was normal neurologically except for a swelling at the lumbar spine. The neurologist reviewed the child a number of times and recorded poor motor development of lower limb function. The neurologist had arranged the MRI, which is below. The neurologist is consulting you in regard to the option of surgical intervention.



Figure 1: Saggital MRI

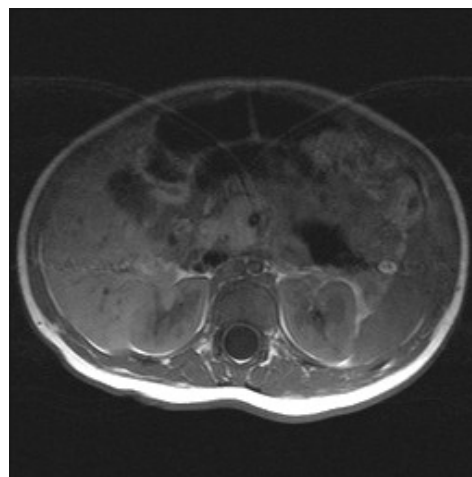


Figure 2: Axial at T12

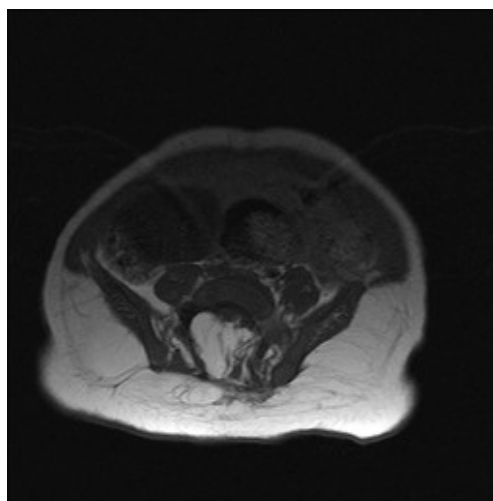


Figure 3: Axial at L5

- A. Describe the important aspects of the imaging and include the classification of this condition.
- B. Outline the embryology of this condition
- C. Discuss in detail your pre-operative assessment.
- D. The family are concerned about the long-term neurological outcome of their child and are seeking advice of the role of surgical intervention. Outline your surgical approach and included the risks of surgery and the long term outcome in relationship to motor and bladder function following surgical treatment and its outcome compared to conservative treatment.

P.T.O ...

Question 3

A. Describe the anatomy of the anterior cerebral artery and its branches.

B. Describe the neurological deficits associated with:

i) parent artery occlusion

ii) branch occlusion



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Written Paper Two

Tuesday 14 August 2012

Reading Time: «Paper_2_Reading_Time»

Writing Time: «Paper_2_Writing_Time»

QUESTION BOOK

<i>Section</i>	<i>Number of Questions to be Answered</i>
One - Essay Questions	2
Two - Short Answer Question	1

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- Pencils
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Section One: Essay Question

Write your response in the answer book provided.

Clearly number the question you are answering.

Question 1

A fifty nine year old has suffered a seizure. The patient is a moderately obese male with Type 2 diabetes and treated for hypertension and smokes twenty cigarettes a day. On investigation he was found to have a left sided, convexity lesion consistent with a meningioma [Figure 1]. Anticonvulsants and dexamethasone are started.

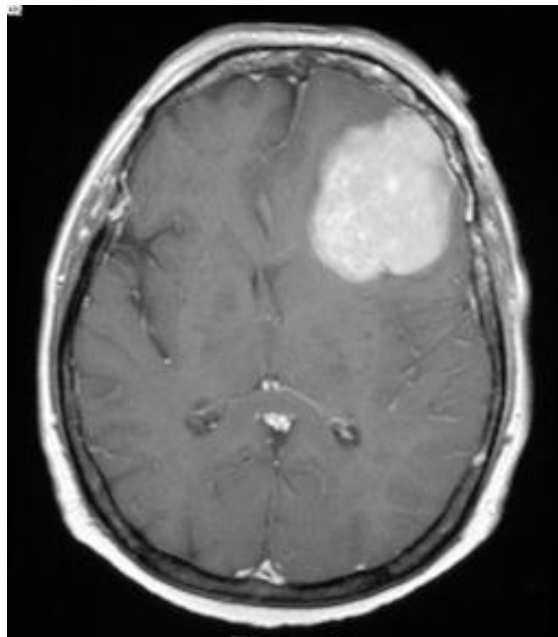
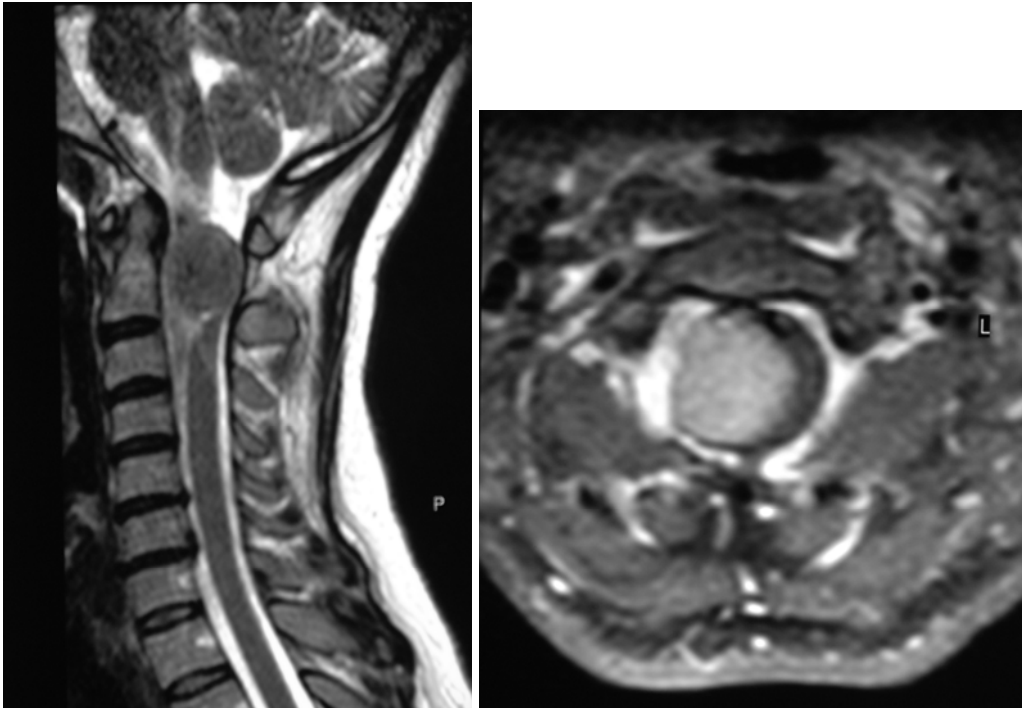


Figure 1

- A. Describe your preoperative investigations and management of this patient with regard to reducing the risk of postoperative infection.
- B. On day two, after an eventful operative procedure the patient has developed a fever of 38.4°C. Vital signs are: pulse of 84 beats per minute, BP 155/90, respiratory rate of 20 per minute, saturation of 98% on room air and GCS 15. The wound is mildly erythematous but there is no discharge from the wound. Describe your management of this patient and the investigations you consider necessary.
- C. By day 4, the temperature is normal. The patient completes an uncomplicated recovery and is discharged on day 7. The wound healed and the sutures were removed. On day 14, the patient's GP rings and says, "The patient has a wound infection because the wound is red and discharging." What do you think has occurred and what advice do you give the GP? What is the likely cause of this complication? What are the possible management options and how do you manage it? Are there any long term implications?

Question 2

A 45 years old female presents with a 12 month history of sensory disturbance in the hands. There are no neurological signs on examination apart from hyperreflexia. Pre-contrast T2 and post contrast T1 images from the MRI are shown.



- A. State the most likely diagnosis and any other possibilities. Describe the likely natural history and the mechanism(s) by which the abnormality affects neurological function.
- B. Draw a cross sectional anatomy of the cervical cord at C2.
- C. Describe in detail any surgery you would undertake.
- D. State the risks about which you would warn the patient and their likelihood of occurring. What is the long term expectation?

Section Two - Short Answer Questions

Write your response in the answer book provided.

Clearly number the question you are answering.

Question 3

- A. Describe (with illustration) the paramedian approach to an acute far lateral (extra-foraminal) L4/5 disc prolapse.
- B. Discuss the evidence you would present to a patient in the management of a 5mm intracranial asymptomatic aneurysm.
- C. Describe your anatomical landmarks for percutaneous access to the foramen ovale.
- D. Discuss the evidence for decompressive craniectomy in acute traumatic brain injury.
- E. List the classification of C2 odontoid fractures. What is the prognosis and treatment of each type?
- F. Describe your surgical technique for freehand placement of a frontal external ventricular drain.