**Question 1**

Which of the following regarding meningiomas is true?

A They are common in children

B They are fast growing tumours

C They show a moderate male predominance

D They grow more rapidly during pregnancy

Explanation D

Meningiomas are predominantly benign tumours of adults, usually attached to the dura, that arise from the meningothelial cell of the arachnoid. They are slow growing lesions. They are uncommon in children and generally show a female predominance (3:2). Meningiomas often express progesterone receptors and may grow more rapidly during pregnancy

**Question 2**

Which of the following regarding multiple sclerosis (MS) is incorrect?

A IgG levels in the CSF are raised

B MS is a demyelinating grey matter disease of the brain

C The frequency of relapses tends to decrease during the course of time

D Women are affected twice as often as men

Explanation B

MS is an autoimmune demyelinating disorder characterised by distinct episodes of neurological deficits, separated in time, attributable to white matter lesions that are separated in space. It is the most common of the demyelinating disorders. Women are affected twice as often as men. The disease may become apparent at any age but the onset in children or after the age of 50yr is rare. The frequency of relapses tend to decrease during the course of time, but there are steady neurologic deterioration in most affected individuals.Examination of the CSf reveals a mildly elevated protein level and in one third of cases there is moderate pleocytosis. IgG levels are increased and oligoclonal bands are usually observed on immunoelectrophoresis

**Question 3**

CNS rabies, which is incorrect?

A Negri bodies are pathognomonic of rabies

B Local paraesthesia around the wound plus systemic symptoms is diagnostic

C Is only transmitted to humans through a bite

D The incubation period depends on the distance between the wound and the brain

Explanation C

Rabies is a severe encephalitis transmitted to humans by the bite of a rabid animal-usually a dog or various wild animals. Exposure to certain species of bats, even without a known bite, can also lead to rabies. Negri bodies, the pathognomonic microscopic finding, are cytoplasmic, round to oval, eosinophilic inclusions that can be found in pyramidal neurons of the hippocampus and Purkinje cells of the cerebellum, sites usually devoid of inflammation. Since the virus enters the CNS by ascending along the peripheral nerves from the wound site, the incubation period (1-3months) depends on the distance between the wound and the brain. The disease begins with non specific symptoms of malaise, headache, and fever, but the conjunction of these symptoms with local paraesthesia around the wound is diagnostic

**Question 4**

Regarding cerebrospinal fluid, which is correct?

A 350mls of CSF is produced a day

B Absorption of CSF occurs in choroid plexus

C The osmolality of CSF is the same as plasma

D Turnover of CSF occurs 6 times a day

Explanation C

Cerebrospinal fluid volume in humans is 150mls and the rate of production is about 550ml/day. Thus the CSF turnover is 3.7 times a day. 50-70% of CSF is formed in the choroid plexuses and the remainder is formed around blood vessels and along ventricular walls. It is absorbed through the arachnoid villi into veins, mainly the cerebral venous sinus. The composition of CSF: it contains electrolytes (Na, K, Mg, Ca, Cl, HCO3), pco2, pH, proteins, glucose, urea, creatinine, uric acid, cholesterol, and inorganic P. Osmolality of CSF and plasma is the same= 289 mosm/kg H20. The composition of CSF is essentially the same as brain ECF, which in humans makes up 15% of the brain volume.

**Question 5**

In which part of the CNS does polio not affect?

A Posterior horn of the spinal cord

B Dorsal root ganglion

C Cranial motor nuclei

D Anterior horn of the spinal cord

Explanation B

Polio invades the CNS and replicates in the motor neurons of the spinal cord and brainstem. Commonly the anterior horn motor neurons of the spinal cord are involved. The posterior horns of the spinal cord and the cranial motor nuclei are sometimes involved.

It does not involve the dorsal root ganglion = Trunk ganglion which is located adjacent to the spine on a dorsal root and contains the cell bodies of afferent sensory nerves.

**Question 6**

Which is FALSE regarding atraumatic intracerebral haemorrhage?

A The two main aetiologies are hypertension and congenital aneurysms

B Hypertensive haemorrhages occurs most often in the putamen region Your Answer

C Cerebral amyloid angiopathy bleeds are often restricted to the leptomenigeal and cerebral cortical arterioles

D Peak incidence is 60yrs of age

Explanation A

Atraumatic intracerebral haemorrhage occurs in middle to late adult life. Peak incidence 60yrs. The 2 main aetiologies are hypertension and cerebral amyloid angiopathy (CAA). Other local or systemic factors may cause or contribute: coagulation disorders, neoplasms, vaculitis, aneurysms and vascular malformations. Hypertension accounts of >50% of clinically significant haemorrhages and for 15% of deaths in patients with chronic hypertension. These haemorrhages occur in the putamen (50-60%), thalamus, pons and cerebellar hemispheres. CAA bleeds are often restricted to the leptomenigeal and cerebral cortical arterioles and capillaries

**Question 7**

Which is true regarding a retinoblastoma?

A Surgery is the first option of treatment

B Retinoblastoma is the second most common malignancy in children

C The cellualr origin of retinoblastoma is a neuronal cell

D Metastasis occur to the brain and often to the lungs

Explanation C

Retinoblastoma is the most common primary intraocular malignancy of children. The molecular genetics of retinoblastoma indicate that the cell of origin is neuronal. Approximately 40% of cases occur in patients who inherit a germline mutation of one RB allele. Chemotherapy is often the first of treatment to attempt to reduce the tumour followed by laser treatment or cryopexy. Spread is to the brain and bone marrow and seldom to the lungs. Prognosis is poor if there is extra ocular extension and invasion along the optic nerve, and by choroidal invasion.