A 50-year-old male patient suffered from acute generalized weakness with respiratory failure. Following figures show results of motor nerve conduction study of median nerve (upper half) and repetitive stimulation test at various stimulation frequency (lower half) of median nerve. Calculated median nerve motor conduction velocity was 53.4 m/sec. Which one of the following diagnosis is most likely?

A, Acute demyelinating polyradiculoneuropathy (AIDP)
B, Acute porphyric polyneuropathy
C, Acute organophosphate intoxication
D, Myasthenic crisis
E, Acute tetrodotoxin intoxication
A 8-year-old boy suffered from progressive intellectual deterioration, ataxia, hyperactive reflexes and widespread myoclonus. The EEG was presented. Which one of the following statements is NOT correct?

A, The EEG showed periodic bursts of high-voltage waves followed by a relatively flat pattern
B, The oligoclonal bands of IgG in CSF add help for the diagnosis
C, Lipid storage disease should be included in differential diagnosis.
D, The underlying pathogen is chronic Cytomegalovirus (CMV) infection
E, The EEG is a pattern of periodic lateralizing epileptiform discharges
3. Choose the artery supplying the lesion in the image.
   A, Superior cerebellar artery
   B, Posterior inferior cerebellar artery
   C, Anterior inferior cerebellar artery
   D, Vertebral artery
   E, None of the above

4. A patient was asked to write a sentence which is shown in the figure.
   Where is the lesion?
   A, Dominant parietal lobe
   B, Non-dominant frontal lobe
   C, Dominant frontal lobe
   D, Dominant temporal lobe
   E, Non-dominant temporal lobe

   Could try would be as for usual
5. Which one is the damaged nerve causing the disability in this figure?
   A, Thoracodorsal nerve
   B, Dorsal scapular nerve
   C, Suprascapular nerve
   D, Subscapular nerve
   E, Long thoracic nerve

6. The 10-20 system EEG with normal setting, lower filter 0.3 Hz, high filter 70 Hz, which statement is **NOT** correct?
   A, Epileptogenic activity at T5
   B, May be found in brain death.
   C, Electrocerebral inactivity EEG (Isoelectric EEG)
   D, Only showed absence of cerebral cortical and subcortical function, not necessary permanent neuron death.
   E, May be present in anoxic encephalopathy
The 10-20 system EEG with normal setting, lower filter 0.3 Hz, high filter 70 Hz, which statement is NOT correct?

A, If the EEG was performed after anoxic encephalopathy, the prognosis is poor.
B, Patient maybe in clear consciousness
C, If the EEG was performed in patients with drug intoxication, the prognosis maybe not so poor.
D, Artifacts of mechanical ventilator is not likely.
E, May be seen in some patients with body temperature at 22°C.
8. A 15-year-old female patient has convulsive seizure, delayed developmental milestones in infancy and mental retardation. The photographic picture above showed the facial skin lesions. She is a patient of
A, Sturge-Weber syndrome
B, Neurofibromatosis
C, Tuberous sclerosis
D, Incontinentia pigmenti
E, Von Hippel-Lindau disease
9. A 50 year-old woman presented with headache. What possibilities should be considered?
A, CNS lymphoma
B, Tensional headache
C, Temporal arteritis
D, Common migraine
E, Cluster headache
10. Choose one best answer for the following brain pathology (H & E stain):
   A, Creutzfeldt-Jakob disease
   B, Alzheimer's disease
   C, Hypoxic encephalopathy
   D, Korsakoff brain
   E, Huntington's disease

11. According to the finding of this CSF cytology, which diagnosis is most favored?
   A, Viral meningitis
   B, Bacterial meningitis
   C, Chemically induced inflammation from teratoma
   D, Meningeal carcinomatosis
   E, Tuberculous meningoencephalitis
12. A 32 year-old male patient suffered from alcoholism or malnutrition and developed spastic quadriplegia, pseudobulbar palsy and ophthalmoplegia. The gross pathology and histology were shown in figure below. Which one of the following is the correct diagnosis?
A, pontine glioma  
B, central pontine myelinolysis  
C, brain stem infarction  
D, Bickerstaff encephalitis  
E, multiple sclerosis

13. A 17 year-old male patient had four limbs weakness, ocular and bulbar palsies for one year. The needle EMG showed positive sharp wave and fibrillation potentials. The pathology of muscle (H&E stain) was shown in figure below. Which one of the following is the correct diagnosis?
A, Nemaline myopathy  
B, Central core myopathy  
C, Centronuclear myopathy  
D, McArdle disease  
E, Polymyositis
A 58 year-old man complained of severe headache after taking part in marathon. He was found to have bilateral optic disc swellings and seizure. The gross pathology of brain was shown in figure. Which is the correct diagnosis?

A, Brain contusion
B, Ateriovenous malformation
C, Meningitis
D, Brain tumor
E, Superior sagittal sinus thrombosis
A 35 year-old female, vertigo, blurred vision, unstable gait and seizure attack for several months. CT showed a large brain tumor close the lateral ventricles with hydrocephalus. Which tumor is indicated from the following pathologic findings:

A, Low grade Astrocytoma
B, Ependymoma
C, Glioblastoma multiforme
D, Oligodentrogioma
E, Metastatic tumor
A 45-year-old woman complained of intermittent dizziness and headache. Neurological examinations showed downbeating nystagmus. She had MRI of brain examination. What was the disease she had?

A, Chiari malformation type I
B, Cerebellar atrophy
C, Multiple sclerosis
D, Pseudotumor cerebri
E, Spontaneous intracranial hypotension

T1 weighted image with contrast enhancement
17. A 65-year-old, hyperglycemic man has high signal intensity lesions on his T1-weighted brain magnetic resonance images. What would be the most possible clinical symptoms or signs?

A, Parkinsonism
B, Confusion
C, Hemiplegia
D, Hemichorea-hemiballism
E, Sensory impairment in one side
A 16 y/o man was admitted to our ER with chief complaint of headache, consciousness disturbance and right limbs progress weakness for about 1 week. Papilledema was found on fundus examination. A generalized tonic-clonic seizure had been noted in the morning of the same day. The brain MRI of the patient was showed in figure below. CSF study showed opening pressure 300 mmH2O and close pressure 240 mmH2O. CSF cell count showed WBC: 0, RBC: 1.

Which of the following condition is most likely?
A, Leptomeningitis is most likely and repeat lumbar puncture and antibiotics TX is indicated.
B, Minimal subarachnoid hemorrhage is most likely and angiography should be done for further evaluation.
C, Superior sagittal sinus thrombosis is most likely and appropriate antibiotics with or without anticoagulation management should be given.
D, Mycotic aneurysm is most likely to be the cause of the patient and the aneurysm should be treated surgically as soon as possible.
E, None of the above
19. According to the findings of brain image and EEG recording, which diagnosis is most favored?
A. Tuberculous meningoencephalitis
B. Creutzfeldt-Jacob disease
C. Herpes simplex encephalitis
D. Japanese B encephalitis
E. Multiple sclerosis
20. Based on the MRI with contrast findings in a 42-year-old woman, which one of the following is NOT correct?

A, Cranial neuropathy is a frequent symptom.
B, CSF study shows a very low pressure.
C, Bacterial meningitis is not likely.
D, Frequent association with autoimmune disorders.
E, Steroid is effective in relieving symptoms.

T1 weighted image with contrast

T1 weighted image with contrast enhancement