

**Directions: Questions (1-22) Circle the one best answer**

C 1. A 22-year-old man comes to the emergency room with a 2-hour history of severe diffuse headache. He thinks this is the worst headache he has ever experienced in his life. The headache was preceded by brief loss of consciousness. The patient denies any visual disturbance but has vomited 3 times in the last 2 hours. He gives history of three episodes of headache in the last two years. In each of these episodes, the headache was unilateral and throbbing in nature and associated with nausea and vomiting. The each episode lasted about 2 hours and was preceded by visual difficulty lasting about 30 minutes. The neurological examination reveals no focal neurological findings and a CT scan without contrast is negative.

Based upon the above information, you will now recommend:

- (A) CT scan of the head with contrast
- (B) MRI of the head
- (C) Lumbar puncture
- (D) Sumatriptan 6 mg subcutaneously

B 2. A 70-year-old male patient with history of diabetes for 20 years presents with history of diplopia of 2 days duration. The examination reveals inability to move the left eye outwards and diplopia on looking towards the left side. The diplopia disappears by covering either eye. The fundus examination shows evidence of mild diabetic retinopathy but no papilledema. There are no other focal neurological signs.

The most likely cause of diplopia in this patient is:

- (A) Left 4th nerve paralysis due to infarction of the nerve
- (B) Left 6th nerve paralysis due to infarction of the nerve
- (C) Left 6th nerve paralysis due to intracranial lesion
- (D) Left 3rd nerve paralysis

D 3. A 76-year-old man consults you because of recurrent episodes of left sided visual loss associated with weakness of right arm and leg. He has experienced 3-4 such episodes in the last 6 months and each episode lasts about 5-10 minutes. Physical examination reveals BP 130/80, pulse 80/minute regular. There are no focal neurological findings. The carotid duplex study shows 45 % narrowing of left carotid artery and 40% narrowing of right carotid artery.

Based upon the above information, you will now recommend:

- (A) Warfarin therapy
- (B) Left carotid endarterectomy
- (C) Aspirin + left carotid endarterectomy
- (D) Aspirin alone

C 4.

A 60-year-old man consults you because of slowly progressive weakness of his arms and legs and occasional difficulty in swallowing. The neurological examination reveals weakness, atrophy and fasciculations involving the muscles of upper extremities while weakness, spasticity, hyperactive reflexes and a positive extensor planter response are noted in the lower extremities. The patient denies any pain or parasthesias and the examination shows no loss of sensations. The CT scan of head with contrast is negative

Based upon the above information, the most likely diagnosis is :

- (A) Cervical cord compression
- (B) Syringomyelia
- (C) Amyotrophic lateral sclerosis
- (D) Gullain-Barre syndrome

A 5.

A 32-year-old female presents to the emergency room because of sudden onset of severe headache and diplopia. The physical examination reveals ptosis of the right eye. The right eye pupil is dilated and fixed. There is paralysis of adduction and elevation of right eye.

Based upon the above information, the most likely diagnosis is:

- (A) Leaking posterior communicating aneurysm with compression of the third nerve nucleus
- (B) Subarachnoid hemorrhage with sixth nerve paralysis
- (C) Third nerve paralysis due to infarction of the nerve
- (D) Leaking posterior communicating aneurysm with compression of the 4th cranial nerve nucleus

B 6.

A 56-year-old man consults you because of tingling sensation in hands and feet, poor memory and unsteady gait. The examination shows spasticity and weakness of legs, positive ankle clonus, extensor planter response, loss of vibration sense in lower extremities and positive Rhomberg sign.

Based upon the above information, the most likely diagnosis is:

- (A) Amyotrophic lateral sclerosis
- (B) Vitamin B12 deficiency
- (C) Spinal cord compression
- (D) Syringomyelia

D 7.

A 44-year-old female is brought to emergency room because of weakness and inability to walk. Her illness started 6 days ago with numbness and weakness of both feet and hands. The weakness gradually extended proximally involving all four extremities. The physical examination reveals quadreparesis, inability to close both eyes and move the facial muscles and absence of deep tendon reflexes. The spinal tap reveals the CSF protein of 100 mg, normal glucose and no cells.

Best test to confirm her diagnosis is:

- (A) MRI of the head
- (B) Evoke response testing
- (C) MRI of cervical spine
- (D) EMG and Nerve conduction studies

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A 8. A 36-year-old patient complains of hearing loss in the left ear. On Rinne's test, he hears better when tuning fork is placed on the left mastoid process than when it is placed in front of the ear. He hears better in the left ear when the tuning fork is placed over the center of the forehead.

Most likely cause of his hearing loss is due to the disease affecting:

- (A) Ext. auditory canal or middle ear
- (B) Eighth nerve
- (C) Inner ear
- (D) Central auditory pathways

Dx: Conductive HL

D 9. A 42-year-old man consults you because of episodes of severe headache for the last 3 days. The headache wakes him every night. It is always behind the left eye, excruciating in nature and last for about 2 hours. During episodes of headache, he also experiences tearing of left eye, stuffiness of left side of the nose and drooping of the left eyelid.

Based upon the above information you will now recommend:

- (A) CT scan and if negative do a spinal tap
- (B) Start amitriptyline
- (C) Start propranolol
- (D) Start high dose oral prednisone for one week

Dx: cluster HA's

C 10. A 60-year-old woman consults you because of recurrent episodes of intense pain affecting the lips, cheek and the chin on the left side. She gets several episodes each day and each episode lasts only few seconds.

Based upon the above information, you should now recommend:

- (A) MRI of the head
- (B) Propranolol
- (C) Carbamazepine
- (D) Amitriptyline

Dx: Trigeminal neuralgia

D 11. A 54-year-old man consults you because of sudden onset of left sided facial weakness, drooping of the saliva and inability to close the left eye. The examination shows drooping of the angle of the mouth, unfurrowed forehead, and inability to close the left eye and on opening the mouth the face is pulled to the right side. The rest of the neurological examination is normal

Based upon the above information, you will now recommend:

- (A) CT scan of the head
- (B) Aspirin
- (C) Warfarin
- (D) Patch on the left eye, prednisone and valacyclovir

Dx: Bell's Palsy

A

12.

A 26-year-old woman consults you because of recurrent attacks of vertigo and tinnitus for the last 6 months. Examination during the episode reveals horizontal nystagmus, which disappears with visual fixation on an object. Audiogram shows evidence of high frequency hearing loss in the left ear.

Based upon the above information, the most likely diagnosis is:

- (A) Meniere's disease
- (B) Acoustic neuroma
- (C) Brain stem dysfunction
- (D) Labyrinthitis

B

13.

A 22-year-old female presents because of pain and progressive visual loss in the right eye. The visual activity is 20/100 in the right eye and 20/20 in the left eye. The right pupil does not change in size when light is shown in front of right eye but when light is shown in front of left eye, both the pupils constrict. The eye movements and fundus examination is normal.

Based upon the above information, you will now recommend:

- (A) Oral prednisone
- (B) Intravenous methylprednisolone followed by oral prednisone
- (C) Propranolol
- (D) Amitriptyline

Dx: Optic neuritis

C

14.

A 28-year-old female consults you because of double vision. The examination reveals inability to adduct the left eye with nystagmus in the abducting right eye. The visual acuity and fundus examination is normal.

Based upon the above information, the most likely diagnosis is:

- (A) Left sixth nerve paralysis
- (B) Left third nerve paralysis
- (C) Multiple sclerosis
- (D) Myasthenia gravis

Dx: Intranuclear ophthalmoplegia

C

15.

A 24-year-old patient is brought to emergency room because of generalized rigidity and inability to move quickly for the last few days. The examination reveals marked rigidity of muscles and severe bradykinesia.

Most likely diagnosis is :

- (A) Cocaine intoxication
- (B) Heroin intoxication
- (C) MPTP intoxication (methyl-phenyl-tetrahydropyridine)
- (D) Phenothiazine intoxication

Dx: drug-induced Parkinsonism

A

16.

A 55-year-old patient with long standing history of high blood pressure presents because of sudden onset of weakness of right arm and leg and aphasia. He has a history of several episodes of transient loss of vision involving the left eye in the last 3 months. Each episode lasted 5-10 minutes. The examination reveals complete loss of vision in the left eye, aphasia and weakness of right arm and leg. This patient most likely has occlusion of:

- (A) Left internal carotid artery
- (B) Right internal carotid artery
- (C) Left middle cerebral artery
- (D) Right middle cerebral artery



*Dx: Multi-Infarct Dementia*

A 17. A 72-year-old man with history of high blood pressure and diabetes is brought by his family because of progressively increasing memory loss. He has a history of stroke 4 years ago. The physical examination reveals BP 170/100, very poor memory, brisk tendon reflexes and extensor planter response.

Select the correct statement about this patient:

- (A) CT scan will show multiple hypo dense lesions in white and gray matter
- (B) CT scan will show multiple enhancing lesions in the white matter
- (C) CT scan will show dilated ventricles and sulci
- (D) CT scan will show multiple enhancing lesions in white and gray matter

C 18. A 25-year-old man is brought to emergency room after having a generalized seizure. There is no prior history of seizure disorder.

Acute intoxication with which of the following drugs may be responsible for his seizure.

- (A) Phenothiazines
- (B) Barbiturates
- (C) Cocaine
- (D) Codeine

B 19. A 50-year-old female consults you because of tremors of both hands and difficulty in writing because of the tremors of hands. Tremors disappear at rest and after drinking alcohol.

Based upon the above information, You will now recommend:

- (A) Amitriptyline
- (B) Propranolol
- (C) Carbidopa-levodopa
- (D) Diazepam

A 20. A 72-year-old patient consults you because of right-sided visual loss. Examination reveals dense right homonymous hemianopsia. There are no other neurological abnormalities on examination.

This patient most likely has lesion affecting the :

- (A) Left occipital lobe
- (B) Right occipital lobe
- (C) Left parietal lobe
- (D) Right parietal lobe

A 21. A 70-year-old woman consults you because of poor memory, unsteady gait and urinary incontinence. Physical examination shows her gait to be shuffling, broad based and unsteady. CT scan shows dilated ventricles but normal sulci

Based upon the above information, the most likely diagnosis is:

- (A) Normal pressure hydrocephalus
- (B) Alzheimer's disease
- (C) Obstructive hydrocephalus
- (D) Multifocal leucoencephalopathy

22. A 76-year-old white male consults you because of headache and intermittent blurring of vision for the last 2 weeks. Neurological examination is normal. Select the most important initial test in evaluation of this patient
- (A) CT scan of head with contrast
  - (B) MRI
  - (C) Lumbar puncture
  - (D) Sedimentation rate

**Directions: Items 23-40 are true and false questions. Mark T for statements that are correct and F for statements those are incorrect**

23-26 Following conditions may be associated with the Contrast enhancing CNS lesions in AIDS

- F (23) Multifocal leucoencephalopathy
- T (24) Toxoplasmosis
- T (25) CNS lymphoma
- T (26) Brain abscess

27-29 True statements about Alzheimers disease include:

- F (27) Spinal fluid shows elevated levels of protein
- T (28) CT scan shows enlarged ventricles and enlarged sulci and non-enhancing hypodense areas in the white matter
- T (29) PET scan shows hypometabolism in the parietal lobes

30-33 True statements about multiple sclerosis include:

- T (30) MRI in active disease shows contrast enhancing white matter lesions in the paraventricular and subcortical area
- T (31) Identical twin of a patient with MS has an increased risk of developing active disease
- T (32) Chronic progressive disease has a poor prognosis
- F (33) Onset of disease after age 40 has a better prognosis

34-37 Select the true statements about various muscle diseases:

- T (34) Presence of acetylcholine receptor antibodies confirms the diagnosis of myasthenia gravis
- T (35) The major cause of death in patients with duchenne muscular dystrophy is respiratory failure
- T (36) Myotonic dystrophy may be complicated by cardiac conduction defects
- T (37) Thymectomy should be done for all patients with generalized myasthenia gravis who are under the age of 55

38-40 The complications of status epilepticus include:

- T (38) Hyperpyrexia
- T (39) Irreversible brain damage
- T (40) CSF and peripheral leukocytosis

## Answers to Neurology Questions

- |     |   |     |   |
|-----|---|-----|---|
| 1.  | C | 21. | A |
| 2.  | B | 22. | D |
| 3.  | D | 23. | F |
| 4.  | C | 24. | T |
| 5.  | A | 25. | T |
| 6.  | B | 26. | T |
| 7.  | D | 27. | F |
| 8.  | A | 28. | T |
| 9.  | D | 29. | T |
| 10. | C | 30. | T |
| 11. | D | 31. | T |
| 12. | A | 32. | T |
| 13. | B | 33. | F |
| 14. | C | 34. | T |
| 15. | C | 35. | T |
| 16. | A | 36. | T |
| 17. | A | 37. | T |
| 18. | C | 38. | T |
| 19. | B | 39. | T |
| 20. | A | 40. | T |