Answers to neurology quiz

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Answer 1

Spinocerebellar ataxia

"Hot cross bun" sign is a radiologic finding which describes a cruciate hyperintensity in the pons on axial T2W and FLAIR MRI sequences. The name of the sign is derived from a spiced sweet bun, marked with a cross at the top. It is classically described in patients with the cerebellar subtype of multiple system atrophy (MSA-C).

However, it has also been reported in spinocerebellar ataxia (SCA) 1, 2, 3, 7, and 8, progressive multifocal leukoencephalopathy, paraneoplastic cerebellar degeneration, cerebrotendinous xanthomatosis, fragile X tremor ataxia syndrome and variant Creutzfeldt-Jakob disease.

Answer 2

Shoulder abduction relief sign

Shoulder abduction relief sign refers to the posture of arm abducted at shoulder with hand rested on top of head to relieve pain. It is observed in cervical radiculopathy, in which the lower cervical roots are involved. It has a diagnostic value in pointing to possible cervical disease in patients complaining of shoulder pain.

Shoulder abduction can be used not only as a diagnostic sign but may be incorporated in the conservative management of patients suffering from cervical radiculopathy affecting the lower cervical roots.

Answer 3

Cardiac cephalalgia *"Headache of the Heart"*

This patient's headache which was induced during the stress test was completely relieved by sublingual nitroglycerine, raising the possibility of cardiac cephalalgia. His coronary angiogram revealed triple vessel disease and CABG provided complete resolution of the exertional headaches.

Cardiac cephalalgia is an uncommon presentation of coronary ischemia. It may be the only manifestation without associated chest pain, and the response to nitrates aids diagnosis. Useful clues are older age, no previous history of headache, presence of coronary artery disease risk factors, and headaches on exercise. Distinguishing this from migraine is important, as triptans are contraindicated.

Answer 4

Corticobasal degeneration

Corticobasal degeneration is a rare neurodegenerative disease with an asymmetric onset characterized by apraxia, dystonia, rigidity, akinesia, and postural instability. The axial MRI image shows a strikingly asymmetric cortical atrophy, more marked on the side contralateral to the clinical symptoms.

Answer 5

a. Suprascapular nerve

b. Overhead sports like Volleyball and Tennis

A common cause for Suprascapular neuropathy is repetitive overhead trauma. This injury is often seen in volleyball, badminton, tennis, and baseball players, weight lifters, and swimmers. These sports expose the athlete's hands to overhead, abducted and externally rotated positions for prolonged periods of time causing damage to the nerve.

Answer 6

Corticobasal degeneration

Hemorrhage into the midbrain tegmentum causes the pupils to be in midposition and fixed. Tectal hemorrhage results in fixed dilated pupils, which may also be seen in cerebral herniation. Pontine hemorrhage results in pinpoint pupils.

Answer 7

Ivy sign

Moyamoya disease is a chronic cerebrovascular disease characterized by progressive stenosis of the terminal portion of the internal carotid artery, and development of dilated collateral network at the base of the brain.

MRI scan may show cerebral infarctions commonly in the watershed territories. Axial MRI may show multiple tiny hypointensities in bilateral basal ganglia due to collateral vessels.

FLAIR MRI may demonstrate leptomeningeal high-signal intensity called the "ivy sign" which resembles creeping ivy on stones. This radiological finding is due to slow flow in engorged cortical pial arteries. This sign can also be found in the contrast enhanced MR images as diffuse leptomeningeal enhancement.

Answer 8

Syndrome of the Trephined or sinking skin flap syndrome

This syndrome usually presents within weeks to months after craniectomy. These patients develop headaches, seizures, reduced alertness and focal deficits. The symptoms may have a postural component.

When the atmospheric pressure exceeds the intracranial pressure, the skin flap presses on the brain tissue resulting in paradoxical herniation. Neuroimaging shows a depressed skin flap at the craniectomy site and concave deformity of the adjacent brain with midline shift.

The symptoms resolve promptly with Trendelenburg positioning and hydration. The definitive treatment is cranioplasty. It is important for Neurologists to be aware of this condition in view of the increasing number of their patients undergoing decompressive craniectomy especially for stroke.