M_CNRNPQ (300+ Questions) - Quiz Questions with Answers

1.

A patient with a known seizure disorder is admitted to the hospital with altered mental status. His phenytoin (Dilantin) level is 35.6. What is the most appropriate action?

Bolus with 1 gram of phenytoin

Continue to give the patient's standard dosage of phenytoin

Hold phenytoin and recheck a level the next day

Administer naloxone (Narcan)

Explanation:

The patient's phenytoin (Dilantin) level is supratherapeutic. A normal level is 10-20 mcg/mL. Supratherapeutic levels can cause confusion, nausea, urticaria, nystagmus, hypotension, and cardiac arrhythmias. Naloxone/Narcan can reverse narcotic medications, but not phenytoin. Holding the medication and checking serial levels is the mainstay of management.

2.

A patient presenting with dysarthria and lethargy is being evaluated in the ER for possible stroke. The patient has a Glasgow Coma Scale (GCS) of 12, blood pressure of 150/72, pulse ox of 96% on room air, blood glucose of 43, and patient scores a 9 on the *National Institutes of Health Stroke Scale (*NIHSS). What is the best next step in intervention?

Administer D50

Obtain a CT of the head

Administer tissue plasminogen activator (tPA)

Intubate the patient

Explanation:

Administering D50 would be appropriate since the patient's glucose is 43, which may be the reason for the altered mental status and dysarthria. If the patient's neurological exam doesn't improve once the blood sugar normalizes, then obtaining a CT of the head would be appropriate. If the CT of the head is negative then administering tPA would be the next step if there are no contraindications (and the blood glucose has stabilized). The patient's GCS is 12; not sufficiently low enough to warrant intubation.

3.

Which of the following areas is the primary center for fine motor control?

Occipital lobe

Cerebellum

Brainstem

Frontal lobe

Explanation:

The cerebellum is responsible for fine motor movements as well as balance and coordination.

4.

A patient with a history of seizures just suffered an acute seizure. Her family member states that she takes phenytoin (Dilantin) for her condition. Her Dilantin level is 6.1µg/mL. Which of the following labs should be ordered when ordering a Dilantin level to monitor therapy?

Albumin

Sodium

Chloride

Prolactin

Explanation:

Dilantin levels should always be corrected for albumin. Since most of the Dilantin in serum is bound to proteins, the level of serum albumin influences the amount of free Dilantin.

5.

A patient presents to the office with worsening generalized headache for several weeks. He also mentions that his hands and feet have become larger over the past several years; his gloves and shoes no longer fit. On physical exam he has a prominent jaw and forehead as well as enlarged lips, nose, and tongue. Which of the following may be the reason for his symptoms?

Pineal tumor

Craniopharyngioma

Pituitary adenoma

Astrocytoma

Explanation:

The patient has the physical findings of acromegaly, which is caused by pituitary adenomas in adults. The pituitary secretes growth hormone (GH); since the growth plates in adults have already fused, thickening of the bones and enlargement of the hands and feet occur. Surgery is the first option recommended for most people with acromegaly.

6.

A trauma patient arrives in the emergency room making few incomprehensible sounds, withdrawing to pain, and opening eyes to verbal command. Which of the following scores is correct in regards to the verbal assessment?

Two

Three

Four

Five

Explanation:

The patient's verbal assessment would be scored as a two. The patient's Glasgow Coma Scale (GCS) is nine; E3V2M4.

Glasgow Coma Scale

Best Eye Response (E)	*Spontaneous – open with blinking at baseline*	*4*
	Opens to verbal command, speech, or shout	*3*
	Opens to pain, not applied to face	*2*
	None	*1*
Best Verbal Response (V)	*Oriented*	*5*
	Confused conversation, but able to answer questions	*4*
	Inappropriate responses, words discernible	*3*
	Incomprehensible speech	*2*
	None	*1*
Best Motor Response (M)	*Obeys commands for movement*	*6*
	Purposeful movement to painful stimulus	*5*
	Withdraws from pain	*4*
	Abnormal (spastic) flexion, decorticate posture	*3*
	Extensor (rigid) response, decerebrate posture	*2*
	None	*1*

7.

All of the following is true regarding Tourette's syndrome EXCEPT:

it is characterized by voluntary vocalizations or movements.

there is no standard treatment regimen.

it affects males more commonly than females.

onset usually occurs in childhood.

Explanation:

Tourette's syndrome is characterized by involuntary vocalizations or movements. There is no known cause. Onset usually occurs in childhood and improves by early adulthood. It affects males more commonly than females. There is no standard treatment regimen. Antipsychotic medications such as Haloperidol/Haldol may be used to help suppress symptoms.

8.

A 26-year-old female with a known history of alcohol abuse is admitted for gastroenteritis. She clinically improves and is discharged home. Several weeks later she returns to the hospital and is diagnosed with Guillain-Barré syndrome (GBS). How many risk factors does she have for GBS?

One

Two

Three

Four

Explanation:

Guillain-Barré syndrome (GBS) is an autoimmune disorder in which the body attacks the peripheral nervous system. It presents as ascending paresthesias and weakness which may vary in severity. There is no known cause, but upper respiratory infections, gastrointestinal infections, surgery, and vaccinations, particularly the influenza vaccination may increase the risk for developing GBS. GBS occurs in all age groups and affects both sexes equally. This patient has one risk factor which is her recent gastroenteritis.

9.

Which of the following is not a treatment for tension headaches?

Tramadol (Ultram)

Ibuprofen (Motrin)

Sumatriptan (Imitrex)

Levetiracetam (Keppra)

Explanation:

Anticonvulsants such as Keppra are not used in the treatment for tension headaches. Narcotics, triptans, NSAIDs, anticonvulsants, and muscle relaxers are common remedies.

10.

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

MS is an autoimmune disease

MS is more common in people indigenous to the tropics

MS affects men more than women

MS can be cured with steroids

Explanation:

Multiple sclerosis (MS) is a chronic progressive autoimmune disease that attacks the myelin sheath of nerve cells. It can occur at any point in life but is most common in the third and fifth decades of life. It can affect either sex, but affects women more than men. There is no cure but immunosuppressive medications, muscle relaxers, and steroids may help with symptomatic relief of acute flare-ups. For unknown reasons it is more common to people indigenous to temperate climates such as the United States and Europe.

11.

A patient presents with intermittent headaches associated with nausea and vomiting for the past several months. The headaches usually occur with the onset of menses. Prior to the onset of symptoms, she describes seeing strange lights. Which of the following is the most likely diagnosis?

Meningitis

Migraine headaches

Meniere's disease

Multiple sclerosis

Explanation:

This patient has the classic symptoms of a migraine headache. Migraines are chronic severe headaches that may be preceded by prodromal symptoms such as altered vision, sound, or taste call an aura.

12.

Which of the following signs and symptoms are most consistent with Meniere's disease?

Vertigo, headache, vision loss

Headache, dizziness, nausea

Vertigo, hearing loss, tinnitus

Fever, neck pain, headache

Explanation:

Meniere's disease is caused by excessive fluid in the inner ear causing vertigo, tinnitus, and progressive hearing loss. Other signs and symptoms may include, nausea, vomiting, diaphoresis, and drop attacks. Treatment modalities include diuretics, reduction of sodium intake, antihistamines, and stress reduction therapies such as yoga or meditation.

13.

What is the most common cause of gigantism in pediatric patients?

Astrocytoma

Pineocytoma

Choriocarcinoma

Pituitary adenoma

Explanation:

Pituitary adenomas cause gigantism in children due to the overproduction of growth factor. Since children's growth plates have not closed is causes uncontrolled growth. In adults, pituitary adenomas cause acromegaly.

14.

What is the most common complication of an intraventricular hemorrhage (IVH)?

Seizure

Hydrocephalus

Cortical blindness

Paralysis

Explanation:

Hydrocephalus is a common complication in IVH due to the obstruction of outflow of cerebrospinal fluid (CSF). Bleeds that occur deep in the brain typically do not cause seizures. Pathology in the occipital lobes may cause vision impairment. Paralysis may occur with IVH depending on the size of the bleed, but hydrocephalus is more common.

15.

A 56-year-old female is brought to the hospital following an assault to the head. A CT of the head reveals an indeterminate hypodensity. A CT angiogram of the brain reveals a 16mm middle cerebral artery aneurysm. Which of the following is the most appropriate intervention?

Surgical repair

Discharge home

Serial imaging as an outpatient

Lumbar puncture

Explanation:

Unruptured cerebral aneurysms larger than 6 mm require surgical intervention since they have a high risk of bleeding. Ruptured aneurysms no matter the size require surgery. Small unruptured aneurysms less than 3-4 mm can be followed as an outpatient with serial imaging. Unruptured aneurysms that are 5-6 mm can be monitored closely as an outpatient if the patient is a poor surgical candidate.

16.

A patient fell off of a ladder landing on his buttocks three hours ago arrives in the emergency room complaining of worsening back and lower extremity paresthesias. Which of the following questions is the most important initial question?

Do you have any medical problems?

Have you any changes in your bowel or urinary habits?

When did your symptoms start?

Do you have a power of attorney?

Explanation:

Urinary or bowel retention or incontinence in conjunction with a history of fall and back pain may indicate a significant spinal abnormality. A potential complication of this patient's injury is cauda equina syndrome, which would require urgent surgical decompression.

17.

Where do medulloblastomas most commonly occur?

Pons

Spinal cord

Brain stem

Cerebellum

Explanation:

Medulloblastomas most commonly occur in the cerebellum. They are rare malignancies that most commonly occur in children.

18.

A patient with known history of chronic alcohol abuse is brought to the emergency room for withdrawal symptoms. In the ER he develops a seizure. Once a seizure ends, another begins several minutes later. Which of the following is the most appropriate initial action?

Order a banana bag

Administer phenytoin (Dilantin)

Prepare for intubation

Obtain a CT of the head

Explanation:

The patient is in status epilepticus and needs to be intubated. Status epilepticus is when a seizure begins without recovery from a prior seizure. The most important initial intervention is to secure the patient's airway. Medications may be administered while the patient is being intubated. A CT of the head is appropriate once the patient is safely intubated.

19.

Which of the following regarding medulloblastomas is true?

They most commonly occur in pediatric patients

Maternal drug use is a significant risk factor

Radiation is a common treatment modality

They are usually benign

Explanation:

Medulloblastomas are rare malignant tumors. They are the most common pediatric brain malignancy. Primary treatments are chemotherapy and surgical debulking. Radiation is not an option due to most patients' young age. The exact cause is unknown.

20.

A patient is diagnosed with cauda equine syndrome. What is the mainstay of treatment for this condition?

Plasmapheresis

Pain medications

Surgery

Steroids

Explanation:

Cauda equina syndrome requires emergent surgical decompression. The cauda equine is a collection of nerve roots between the conus medullaris and the filum terminale. Damage, usually due to a traumatic event such as a fall, can cause saddle anesthesias, urinary/bowel incontinence or retention, back pain, rectal pain, and lower extremity paresthesias. If left untreated patients may progress to permanent paralysis and permanent urogenital dysfunction. Steroids may be given to alleviate swelling, but surgical intervention is the only definitive treatment.

21.

Which of the following conditions involves chronic widespread pain and a heightened response to pressure?

Multiple sclerosis

Amyotrophic Lateral Sclerosis

Fibromyalgia

Guillain-Barré syndrome

Explanation:

Fibromyalgia is a medical condition with unknown etiology characterized by chronic pain. Other signs and symptoms may include dysphagia, sleep disturbances, and bowel and bladder disturbances. Labs and imaging studies are normal. This condition is often associated with depression and anxiety. There a wide range of treatments for this disorder including anti-depressant and anti-anxiety medications, lifestyle changes to limit stress, bowel regimens, elimination of gluten, acupuncture, and sleep aids.

22.

Which of the following medications is primarily given for status epilepticus?

Pentobarbital (Nembutal)

Phenytoin (Dilantin)

Levetiracetam (Keppra)

Lorazepam (Ativan)

Explanation:

Pentobarbital is a short acting barbiturate used in the treatment of status epilepticus that has failed benzodiazepine and traditional anticonvulsant therapy.

23.

Which of the following is NOT consistent with Brown-Sequard syndrome?

Loss of sensation on the ipsilateral side of the injury

Loss of pain on the contralateral side of the injury

Loss of temperature on the contralateral side of the injury

Loss of movement on the ipsilateral side of the injury

Explanation:

In patients with Brown Sequard syndrome the sensory loss is particularly strong on the ipsilateral side as the injury to the spine. These sensations are accompanied by a loss of the sense of pain and of temperature on the contralateral side at which the injury was sustained.

24.

What is a potential common side effect of intravenous phenytoin (Dilantin) administration?

Tardive dyskinesia

Pruritus

Hypotension

Bowel incontinence

Explanation:

Hypotension is a serious common side effect of IV Dilantin. If a patient is being given IV Dilantin, they should be on a telemetry monitor to closely assess vital signs. If there is a mild drop in blood pressure a fluid bolus should be given. However, if a significant drop occurs of if the patient develops symptoms, the drug should be discontinued.

25.

A patient is admitted for an acute ischemic stroke. His wife asks why his blood pressure is allowed to run higher than usual. Which of the following is the most appropriate response?

Hypertension will increase perfusion to the ischemic areas of the brain

Hypertension decreases the risk of a hemorrhagic stroke

Hypertension may help prevent against seizures

Hypertension may reverse some of the damage caused by the stroke

Explanation:

Permissive hypertension following the first few days of a stroke may increase perfusion to ischemic parts of the brain limiting the damage of the stroke. Hypertension does not reverse damage by the part of the brain involved in a stroke. Dead brain cells cannot be revived. Hypertension must be carefully monitored because if the blood pressure rises too high it increases the risk of developing a hemorrhagic stroke. Hypertension does not prevent seizures.

26.

A patient arrives to emergency room with symptoms of a possible stroke. Which of the following is the most important initial question to ask?

Have you ever had a stroke?

What time did the symptoms start?

Do you have any past medical history?

What medications do you take?

Explanation:

Finding out the time of onset of the symptoms will determine whether or not the patient is eligible for tissue plasminogen activator (tPA). Newest guidelines recommend that tPA may be given up to 4.5 hours after symptom onset as long as the patient does not have any major contraindications.

27.

A patient with a confirmed right-sided ischemic stroke is receiving tissue plasminogen activator (tPA) when she suddenly develops a right-sided hemiparesis. What is the most appropriate intervention?

Send the patient for CT head

Discontinue the tPA

Administer aspirin/Ecotrin

Obtain an electroencephalogram (EEG)

Explanation:

The most important initial step is to discontinue the tPA. One of the most feared complications of tPA is development of a cerebral hemorrhage. Since the patient has a confirmed right stroke, the patient should have left-sided symptoms. Since the patient has right-sided hemiparesis, left brain pathology is suspected. The medical team should discontinue tPA and then get a CT head of the patient. If that is negative then an EEG may be considered. Antiepileptic drugs should be held off unless the EEG is positive or seizure is strongly suspected.

28.

Which of the following patients has the lowest risk for stroke?

56-year-old man with a history of atrial fibrillation

68-year-old woman with a HA1C of 6.2%

25-year-old woman with a history of cocaine abuse

37-year-old patient in sickle cell crisis

Explanation:

The elderly female with borderline diabetes has the lowest incidence of stroke. Although diabetes increases risk for stroke, her diabetes is well controlled. A nondiabetic patient will have a hemoglobin A1c less than 5.7%. A hemoglobin A1c between 5.8-6.2% is a borderline diabetic; it may resolve with lifestyle modifications and diet. If the HA1c is above 6.2% the patient should be placed on oral anti-hyperglycemic medication(s). The goal HA1c in diabetic patients is < 7.0%. Atrial fibrillation, cocaine abuse, and sickle cell disease significantly increase the risk for stroke.

29.

Which of the following terms means difficulty speaking and understanding speech?

Apnea

Ataxia

Aphasia

Dyslexia

Explanation:

Aphasia is the impaired ability to form and understand speech. Receptive aphasia is in inability to understand speech. Expressive aphasia is the inability to form speech. Global aphasia is a combination of both. Aphasia is usually due to damage of the temporal lobe.

30.

An 89-year-old female suffers a mechanical fall and presents to the hospital complaining of back pain. A MRI of the lumbar spine reveals an acute L1 compression fracture without retropulsion into the spinal canal or impingement of the spinal cord. The patient has no neurologic deficits. Which of the following would be the least appropriate initial step in management?

Steroid injections

Discectomy and fusion

Physical therapy

Lumbar sacral orthotic (LSO) brace

Explanation:

Initial treatment for this patient would be conservative management. The patient may ambulate with physical therapy wearing an LSO brace. She may take pain medications and receive steroid injections for symptomatic relief. If repeat imaging in several weeks shows instability of the fracture or the patient has intractable pain then surgical intervention may be considered.

31.

Diagnostic tests for non-infectious etiology of epilepsy include all of the following EXCEPT:

blood cultures.

electroencephalogram (EEG).

CT of the head.

Wada test.

Explanation:

Blood cultures are not typically part of epilepsy work-up unless an infectious source is suspected. EEGs help detect current or recent seizure activity, CT head will help detect a structural abnormality (i.e. tumor) that may be causing the seizure activity, and the Wada test is used to determine which side of the brain controls language and memory function. It is generally ordered if an epilepsy patient is considering surgery.

32.

All of the following statements about Lou Gehrig's disease are true EXCEPT:

it causes degeneration and death of upper and lower motor neurons.

patients lose strength and control of voluntary muscles.

it progresses rapidly and is fatal.

it impairs cognition and senses.

Explanation:

ALS, also known as Lou Gehrig's disease, is a rapidly progressive, fatal neurological disease that attacks the upper and lower nerve cells responsible for controlling voluntary muscles. It does not affect cognition or affect a person's ability to see, smell, taste, hear, or recognize touch. There are no known risk factors for the disease. Goals of therapy are to keep the patient mobile and independent for as long as possible.

33.

Which type of seizure may be mistaken for attention deficient hyperactivity disorder (ADHD)?

Simple complex seizure

Tonic-clonic seizure

Absence seizure

Pseudoseizure

Explanation:

Petit mal seizures, also known as absence seizures, involve frequent staring episodes followed by a postictal period. These seizures are typically seen in children. Due to the atypical presentation they may be mistaken for ADHD.

34.

What are the three signs and symptoms that characterize posterior reversible encephalopathy syndrome (PRES)?

Bradykinesia, tremor, muscle rigidity

Dysphagia, ascending weakness, respiratory distress

Fever, vomiting, neck pain

Headache, seizures and visual loss

Explanation:

PRES is characterized by headache, confusion, seizures, and visual loss. Deficits are usually not permanent once the underlying cause is treated. Etiologies may include malignant hypertension and eclampsia.

35.

A patient is admitted to the hospital for altered mental status and subsequently diagnosed with diagnosed with posterior reversible encephalopathy syndrome (PRES). The patient's daughter asks about the prognosis of her father's condition. Which of the following is the most appropriate response?

The prognosis is good and residual deficits are unlikely

The prognosis is good, but residual deficits are common

The prognosis is guarded and residual deficits are likely

The prognosis is poor and withdrawal of care should be considered

Explanation:

The prognosis for PRES is generally good. Patients with PRES develop cerebral edema due to a reversible etiology such as malignant hypertension. The goal is to treat the underlying cause. Deficits are usually not permanent once the underlying cause is successfully treated.

36.

A patient recently diagnosed with multiple sclerosis (MS) asks how it is caused. Which of the following is the most appropriate response?

It is caused by destruction of the myelin sheath of nerve cells

It is caused by the destruction of the substantia nigra

It is cause by an immune mediated response to peripheral neurons

It is caused by an additional copy of chromosome 21

Explanation:

MS is caused by the idiopathic destruction of the myelin sheath of nerve cells affecting coordination, balance, sensation, vision, and motor strength. It is a progressive neurological

disease with no known cause or cure. Goal of care is to minimize exacerbations and maximize quality of life.

37.

What is the most common course of multiple sclerosis (MS)?

Secondary progressive

Primary progressive

Relapsing remitting

Progressive relapsing

Explanation:

The most common disease course of multiple sclerosis is relapsing remitting. People with this type have intermittent flares followed by full, partial, or no recovery. Primary progressive and secondary progressive MS are less common. Primary progressive MS is where the patient steadily declines without plateau or remission. Secondary progressive is where the patient originally has relapsing remitting but then steadily declines without plateau or remission. Progressive relapsing MS is the least common form of the disease. Symptoms steadily get worse, but people also have intermittent flares.

38.

Which of the following conditions would be an unlikely etiology of a brain abscess?

Acquired immune deficiency syndrome (AIDS)

Calvarial fracture

Sinusitis

Guillain-Barré syndrome (GBS)

Explanation:

GBS doesn't cause brain abscesses. GBS is an autoimmune disease that causes damage to the body's peripheral nerves causing rapid onset weakness, dysphagia, and respiratory difficulties. This condition may be treated with plasmapheresis and high dose steroids. Any immunocompromised state such as AIDS or malignancy can predispose a person to infection. Injuries that can introduce pathogens to the brain such as calvarial (skull) fractures, facial fractures, sinusitis or dental infections may predispose a patient to developing a brain abscess.

39.

A patient presents with moderate receptive aphasia, severe expressive aphasia, and left-sided weakness. The patient is subsequently diagnosed with glioblastoma multiforme (GBM). Where is this lesion most likely located?

Left temporal lobe

Left frontal lobe

Right temporal lobe

Right frontal lobe

Explanation:

The GBM is most likely located in the right temporal lobe which houses the brain's main language processing centers. Since the brain has contralateral control of the body, the lesion will be on the right side if the patient is experiencing left-sided weakness.

40.

Which of the following is a leading neurological cause of death in the U.S.A.?

- **Cerebrovascular accident**
- Malignancy
- Epidural hematoma
- Status epilepticus

Explanation:

CVAs are the leading neurological cause of death in the United States. Other leading causes include heart disease, cancer, and accidents. CVAs are the leading cause of serious, long-term disability.

41.

A mother brings her son to the emergency room for recurrent seizures. She states that he developed seizures early in his childhood. The episodes include tonic-clonic movement involving the neck, shoulders, upper arms, and face. What type of seizure is this child experiencing?

- Absence

Simple partial

Tonic-clonic

Myoclonic

Explanation:

The child is having myoclonic seizures. Myoclonic seizures usually cause abnormal movements on both sides of the body at the same time involving the neck, shoulders, upper arms, and face. The onset usually occurs in childhood or around puberty. In most cases these seizures can be well controlled with medication, but these medications but be taken for the patient's entire life.

42.

Which of the following is true regarding ependymoma?

It is more common in children than in adults

The location is commonly intracranial in adult patients

The location is commonly spinal in pediatric patients

The primary treatment is chemotherapy

Explanation:

Ependymomas are more common in children and usually are located in the posterior fossa in pediatric patients. The primary treatment is surgical debulking.

43.

Which of the following is not a treatment for atonic seizures?

Dietary modifications

Callosotomy

Haloperidol (Haldol)

Vagus nerve stimulator

Explanation:

Haldol is not used in the treatment of atonic seizures also known as drop seizures. In drop seizures muscles suddenly lose strength and the person may drop things and often falls to the ground. Atonic seizures usually begin in childhood. Surgery, vagus nerve stimulators, and antiepileptic drugs are the mainstays of treatment. Several studies have shown that the ketogenic diet helps prevent seizures in children whose seizures could not be controlled by medications.

44.

A patient arrives in the emergency room status post motorcycle accident. His Glasgow Coma Scale (GCS) is thirteen. The patient has facial lacerations, a cephalohematoma, clear fluid pooling in his ear, and weakness in his bilateral lower extremities associated with incontinence. Which of these issues should be addressed first?

Cephalohematoma

Fluid in his ear

Facial lacerations

Extremity weakness and incontinence

Explanation:

The patient likely has a significant spinal cord injury and cauda equine needs to be ruled out. The patient needs to be kept on bedrest with serial neurological exams until emergent imaging of the spine and neurosurgical referral can be obtained. The patient likely has a concussion and possibly an intracranial bleed with a likely skull fracture, but since the GCS is relatively high, these issues can be addressed second.

45.

A patient developed sudden onset right hemiparesis and facial droop one hour prior to arrival in the emergency room. The patient had a tonic-clonic seizure at the time of symptom onset, which spontaneously resolved without medication. The patient's labs and CT of the head are normal. The patient is lethargic, but following commands. The *National Institutes of Health Stroke Scale* (NIHSS) is fifteen. Which of the following is the next step in management?

Intubate the patient

Administer tissue plasminogen activator (tPA)

Discharge the patient home

Obtain an electroencephalogram (EEG)

Explanation:

Obtaining an EEG is the most appropriate step since the patient recently had a seizure. The patient is postictal, but is still following commands so intubation at this point is not warranted. TPA is contraindicated in those who present with a seizure. Intracranial hemorrhage, recent

head trauma in the last three months, active internal bleeding, uncontrolled blood pressure (>185/100), abnormal clotting factors due to malignancy or anticoagulation (INR > 1.7, platelet count <100,000), glucose <50 mg/dL or > 400 mg/dL, and seizure at stroke onset are other absolute contraindications to tPA. Discharging the patient is inappropriate; the patient needs a neurology consult, serial neurological exams, further stroke work-up, and an EEG prior to discharge home.

46.

Which of the following is NOT a sign or a symptom of a pituitary microadenoma?

Increased serum prolactin level

Increased bone density

Infertility

Galactorrhea

Explanation:

Decreased bone mineral density may be seen with pituitary microadenomas. Observation or surgery may be considered as treatment depending on the severity of symptoms and size of the tumor. Medications such as bromocriptine may also be used.

47.

A patient arrives in the emergency room with altered mental status. Which of the following would be the initial part of the evaluation?

Order a neurosurgery consult

Obtain a blood glucose level

Order a CT of the head

Obtain an electroencephalogram (EEG)

Explanation:

Hypoglycemia is a common cause of confusion and should be ordered prior to ordering more expensive and invasive tests and procedures.

48.

A patient status post motor vehicle accident suffered a depressed skull fracture. The emergency physician notes that the patient is having Cheyne-Stokes respirations. Which of the following best describes this breathing pattern?

Irregular respirations

Rapid respirations

Shallow respirations

Slow deep breaths

Explanation:

Cheyne-Stokes breathing involves irregular respirations with intermittent periods of apnea. It can be seen in patients with significant trauma where the brain's respiratory center is damages,

immature neonates, those who venture into high altitude locations, and patients with heart failure.

49.

What is shock caused by injury to the spinal cord called?

Hypovolemic

Undifferentiated

Neurogenic

Obstructive

Explanation:

Neurogenic shock is a type of shock that causes decreased systemic vascular resistance caused by damage to the autonomic pathways in the spine. Patient may develop severe hypotension and may go into respiratory and/or cardiac arrest.

50.

An adult male has been shot in the neck. He is awake and alert with palpable upper and lower extremity pulses. There is a small wound to the right lateral side of his neck, with minor bleeding. Which of the following best describes the sequence of care?

Leave the wound open and have the patient remain supine

Cover the wound with an occlusive dressing and have the patient remain supine

Leave the wound open and have the patient remain sitting

Cover the wound with an occlusive dressing and have the patient remain sitting

Explanation:

Open wounds to the neck have to be occluded immediately to reduce the chance of air leaking into the neck tissue or into a lacerated artery or vein that may cause a possible air embolus. Having the patient sit up instead of remaining supine prevents the risk of aspiration.

51.

How long can brain cells survive if circulation ceases?

1-2 minutes

3-4 minutes

5-6 minutes

8 -10 minutes

Explanation:

Brain cells are incredibly sensitive to oxygen deprivation and will survive for about 1-2 minutes once circulation ceases.

52.

What substance do damaged neurons secrete that initiates the destructive cascade of apoptosis?

Hydrogen peroxide

Carbon dioxide

Glutamate

Epinephrine

Explanation:

Injured neurons discharge glutamate, which acts on the damaged neurons adjacent ones initiating a destructive cascade.

53.

When do most deaths following a middle cerebral artery (MCA) occlusion generally occur?

1-2 days

3-4 days

5-6 days

7-10 days

Explanation:

Deaths due to MCA infarctions generally occur due to cerebral edema, which usually doesn't fully develop until the third or fourth day following the event.

54.

Restoring circulation to the ischemic penumbra can limit brain damage in an ischemic infarct. How long is this window of opportunity following the onset of symptoms?

1-2 hours

3-4 hours

5-6 hours

7-10 hours

Explanation:

The opportunity to give tissue plasminogen activator (tPA) is up to 4.5 hours following symptom onset. The earlier tPA is given the greater the chance of limiting the amount of brain damage. Giving tPA after this time period will likely have minimal chance of limiting neurological deficit, but greatly increases the risk of cerebral hemorrhage.

55.

Which of the following is the most likely negative outcome of a basilar artery fusiform aneurysm?

Infarct

Seizure

Subarachnoid hemorrhage

Negative outcome is unlikely

Explanation:

Fusiform aneurysms of the basilar artery usually undergo thrombosis causing ischemic infarction of the pons. Subarachnoid hemorrhage due to rupture and seizure are uncommon occurrences.

56.

A patient with a C4 fracture status post diving accident is being admitted to the intensive care unit. Which of the following is the most important initial assessment?

Administer an electrocardiogram

Insert a Foley catheter

Check capillary refill of upper and lower extremities

Assess oxygenation status and respiratory rate

Explanation:

Assessing the patient's respiratory status is of utmost importance due to the high level of spinal injury. Patients with cervical spine trauma office develop respiratory insufficiency or distress and need to be monitored closely.

57.

A 76-year-old patient who woke up with left hemiparesis came to the emergency room within one hour of waking up. She is diagnosed with an acute right middle cerebral artery (MCA) stroke and admitted to the hospital. Her husband wants her to receive tissue plasminogen activator (tPA) because they arrived at the hospital within one hour of discovering the symptoms. Which of the following is the most appropriate explanation why she did not receive tPA?

TPA can't be given when the time of onset of symptoms is unknown

TPA increases the risk of cerebral hemorrhage in elderly patients

TPA cannot be given to those with MCA strokes

TPA is not given to those with severe symptoms such as hemiparesis

Explanation:

While the patient did manage to arrive in the hospital within one hour of waking up, the exact time of onset of symptoms is unknown because she woke up with left hemiparesis. After 4.5 hours tPA should not be given since it significantly increases the risk of a cerebral hemorrhage and does not significantly improve the brain damage that has already occurred.

58.

A patient who had suffered a large acute stroke needs to be fed. Which of the following is the most appropriate management?

Obtain a speech evaluation prior to feeding

Allow the patient to rest comfortably in the supine position

Offer the patient pureed food

Suction the patient's secretions between bites of food

Explanation:

Any patient with an intracranial injury should have a speech evaluation performed to assess their swallowing ability. A speech pathologist may recommend a modified diet, which will decrease the likelihood of aspiration.

59.

Which of the following patients should be assessed first?

23-year-old with a migraine headache who is complaining of severe nausea and vomiting

45-year-old who is scheduled for a craniotomy in 30 minutes

59-year-old with Parkinson's disease who needs a swallowing assessment.

63-year-old with a recent stroke and worsening dysarthria

Explanation:

Any patient with a recent stroke with a new neurological change needs a stat CT of the head or MRI of the brain to evaluate for hemorrhage and/or cerebral edema. The other patients' needs are important, but are not life threatening.

60.

A patient admitted to the hospital with an acute right-sided ischemic stroke is being evaluated in the intensive care unit. Which of the following would be the most concerning for the medical team?

The blood glucose level is 303 mg/dL

Patient failed his swallow evaluation

Patient is no longer able to lift his left arm

The patient's blood pressure is 159/88

Explanation:

Any patient with a recent stroke with a new neurological change needs a stat CT of the head or MRI of the brain to evaluate for hemorrhage and/or cerebral edema. The other issues are important, but are not life threatening.

61.

A patient complains of burning painful rash on the right side of her trunk for the past four months. On exam the patient has intact vesicles on an erythematous base in a band on the right lower trunk. Which of the following is the most likely etiology?

Varicella zoster

Rubella

Rubeola

Epstein-Barr virus

Explanation:

This patient's signs and symptoms are consistent with postherpetic neuralgia. Once infected with varicella (chickenpox) the virus remains latent in the central nervous system. It may become reactivated later during periods of stress, illness, or immunosuppression. Anti-inflammatory medications, narcotic analgesics, and lidocaine patches may provide some symptomatic relief.

62.

A patient status post motor vehicle accident is being evaluated at the bedside. The patient is intubated, his eyes open to sternal rub, and he withdraws to noxious stimuli. What is his Glasgow Coma Scale (GCS)?

Five

Six

Seven

Eight

Explanation:

The patient's GCS is seven; E2V1M4.

Glasgow Coma Scale

Best Eye Response (E)	*Spontaneous – open with blinking at baseline*	*4*
	Opens to verbal command, speech, or shout	*3*
	Opens to pain, not applied to face	*2*
	None	*1*

	Oriented	*5*
	Confused conversation, but able to answer questions	*4*
Best Verbal Response (V)	*Inappropriate responses, words discernible*	*3*
	Incomprehensible speech	*2*
	None	*1*
	Obeys commands for movement	*6*
	Purposeful movement to painful stimulus	*5*
	Withdraws from pain	*4*
Best Motor Response (M)		
	Abnormal (spastic) flexion, decorticate posture	*3*
	Extensor (rigid) response, decerebrate posture	*2*
	None	*1*

63.

Which of the following are sources of an embolic stroke?

Hypertension

Patent foramen ovale

Obesity

Hyperlipidemia

Explanation:

A patent foramen ovale (PFO) is a hole between the left and right atria of the heart. It normally closes shortly after birth. This condition may cause the formation of clots which can travel to the brain leading to a transient ischemic attack or stroke. In the event that this happens a patient may need to be placed on antiplatelet medications or blood thinners. The other factors are risk factors for thrombotic stroke.

64.

A patient develops progressively worsening low back pain over several months. The pain is alleviated with rest. There are no other associated symptoms. Which of the following is the most likely diagnosis?

Epidural abscess

Herniated nucleus pulposus

Epidural tumor

Meningitis

Explanation:

The patient likely has a herniated disc. An abscess or a tumor should be ruled out since the pain is alleviated with rest and the patient has no other associated signs or symptoms. Meningitis typically presents with neck pain, fever, chills, seizure, and lethargy.

65.

A patient is diagnosed with carpal tunnel syndrome. Impingement on which of the following causes this condition?

Radial nerve

Median nerve

Trigeminal nerve

Ulnar nerve

Explanation:

Compression on the median nerve which controls sensation and motor ability in the first, second, third, and fourth digits causes carpal tunnel syndrome. Repetitive motion, autoimmune diseases, and pregnancy predispose people to this condition. On physical exam the Phalen's sign may be positive. The medical practitioner may have the patient hold their arms out in front of them and then flex their wrists, letting their hands hang down for about sixty seconds. If numbness and tingling occur, the patient may have carpal tunnel syndrome. Treatment options may include NSAIDs, rest, ice, wrist splint, and carpal tunnel release surgery for those who fail conservative management.

66.

A child is brought to the hospital with high fever, lethargy, and new onset seizure. The child is diagnosed with meningitis. The mother reports that her child is not vaccinated. Which of the following is the most likely etiology for the child's illness?

Cryptococcus

Neisseria meningitides

Listeria monocytogenes

Haemophilus influenza

Explanation:

Haemophilus influenzae (H. flu) is a bacterium that can cause a severe infection, occurring mostly in infants and children younger than five years of age. Vaccines given to children in the first year of life have significantly decreased the incidence of H. flu meningitis. Cryptococcus meningitis is an opportunistic fungal infection primarily seen in immunocompromised patients. Neisseria and Listeria infections are generally seen in older adults.

67.

A patient is brought to the hospital after being struck in the head with a bat. The patient's Glasgow Coma Scale is thirteen. A CT scan of the head reveals a nondisplaced parietal fracture and with hypodense convexity in the right parietal area. There is no blunting of the ventricles. Which of the following is NOT an appropriate intervention?

Prepare the patient for a craniotomy

Insert an intraventricular drain

Administer an antiepileptic drug

Perform serial neurological exams

Explanation:

There is no evidence of hydrocephalus on the CT scan and an intraventricular drain is not warranted. This patient has an epidural hematoma, which requires emergent surgical evacuation. An antiepileptic drug should be administered prior to the procedure and a week or two following the procedure to decrease the risk of seizure. Serial neurological exams should be

performed to monitor the patient's condition. Although their GCS is high, many patients with epidural hematomas present with a lucid interval and then rapidly decompensate. The mortality rates of these types of injuries are high and aggressive treatment is needed.

68.

Which of the following conditions is included in Cushing's triad?

Irregular respirations

Hypotension

Tachycardia

Seizure

Explanation:

Cushing's triad is defined as irregular respirations, bradycardia, and hypertension. It is a physiologic nervous system response to persistent increased intracranial pressure (ICP). Normal intracranial pressures measure <20mmHg. Persistent elevated ICPs in addition to the appearance of Cushing's triad is a sign of impending herniation.

69.

A patient flexes his head and knees when his neck is flexed. This physical finding indicates which of the following conditions?

Cerebral abscess

Benign paroxysmal positional vertigo

Meningitis

Myasthenia gravis

Explanation:

The physical exam finding describes a positive Brudzinski sign, which is seen in those with meningitis. This is caused by the inflammation surrounding the brain and spinal cord.

70.

A patient complaining of a headache for the past several weeks is diagnosed with a subacute subdural hematoma. Which of the following is not an appropriate course of action?

Repeat CT of the head

Administer acetaminophen (Tylenol)

Serial neurological assessments

Administer levetiracetam (Keppra)

Explanation:

Antiepileptic drugs are not indicated for subacute hemorrhagic brain injuries. The greatest risk of seizure is in the first two weeks following the incident. If no seizure has occurred during this time then antiepileptic drugs do not need to be prescribed for the patient.

71.

A patient has just been diagnosed with Meniere's disease. Which of the following is the most appropriate treatment?

Referral to a geneticist

Referral to an oncologist

Referral to an audiologist

Referral to palliative care

Explanation:

Meniere's disease is a chronic progressive disease due to a disorder of the inner ear. It causes periodic vertigo, tinnitus, nausea, vomiting, and ultimately permanent loss of hearing. The condition is not fatal. The etiology is believed to be multifactorial. Since hearing is affected, a referral to an audiologist is the most appropriate intervention.

72.

A 43-year-old male from Guatemala presents with worsening back pain associated with fever, chills, fatigue, and paresthesias in his lower extremities for the past four months. He notes that he had a cough with hemoptysis, unintentional weight loss, and night sweats a year ago but was never treated. His purified protein derivative was positive. A MRI with gadolinium revealed lytic destruction of multiple vertebral bodies in his lumbar spine. Which of the following is the most likely diagnosis?

Ependymoma

Chronic inflammatory demyelinating polyneuropathy

Scheuermann's disease

Pott's disease

Explanation:

The patient has Pott's disease or spinal tuberculosis. Tuberculosis may originate in the lungs and spread to the spine or the primary infection may be in the spine. In this patient's case, he had pulmonary tuberculosis approximately one year ago, which went untreated, and then spread to his spine. It is more common in third world countries. Non-immunocompromised patients with have a positive purified protein derivative (PPD). Depending on the amount of bony destruction and severity of symptoms treatment may be conservative (anti-TB medications, bracing, and pain medications) or surgical intervention.

73.

A patient is in the intensive care unit following an assault to the head. Her eyes open to pain, she is verbal but confused, and she will follow some simple commands. In terms of her motor exam, what is her Glasgow Coma Scale (GCS) score?

Two

Five

Six

Thirteen

Explanation:

Her motor exam would be scored as a six. Her eye response is a two and her verbal response is a five. Her total GCS score is thirteen.

Glasgow Coma Scale

Best Eye Response (E)	*Spontaneous – open with blinking at baseline*	*4*
	Opens to verbal command, speech, or shout	*3*
	Opens to pain, not applied to face	*2*
	None	*1*
Best Verbal Response (V)	*Oriented*	*5*
	Confused conversation, but able to answer questions	*4*
	Inappropriate responses, words discernible	*3*
	Incomprehensible speech	*2*
	None	*1*
Best Motor Response (M)	*Obeys commands for movement*	*6*
	Purposeful movement to painful stimulus	*5*
	Withdraws from pain	*4*
	Abnormal (spastic) flexion, decorticate posture	*3*
	Extensor (rigid) response, decerebrate posture	*2*
	None	*1*

74.

Which of the following is not a treatment for a patient with an aneurysmal subarachnoid hemorrhage in vasospasm?

Intravenous fluid hydration

Diuretics

Calcium channel blockers

Vasopressors

Explanation:

Triple-H therapy (hypervolemia, hemodilution, and hypertension) aim to increase cerebral perfusion in aneurysmal subarachnoid hemorrhage and help prevent vasospasm. Calcium channel blockers cause dilatation of the vasculature. IV fluids cause hemodilution. Vasopressors cause permissive hypertension while the patient is in the vasospasm window, which lasts approximately two weeks. Diuretics prevent hemodilution and may cause hypotension and hypovolemia; therefore, they are not utilized.

75.

A patient suffers from a sudden fall without loss of consciousness. The patient is diagnosed with a stroke. What type of stroke does the patient most likely have?

Vertebrobasilar

Frontal

Parietal

Thalamic

Explanation:

The patient likely suffered a stroke in the vertebrobasilar area, which controls balance, gait and vision. Although patients may present with a variety of signs and symptoms, drop attacks are common findings with those who have vertebrobasilar strokes.

76.

Which of the following is the most likely possible complication of a basal ganglia bleed (BGB)?

Blindness

Hydrocephalus

Hearing loss

Seizure

Explanation:

Hydrocephalus is a possible complication of a BGB. The blood may obstruct outflow of cerebrospinal fluid requiring an external ventricular drain and possibly a ventricular peritoneal shunt. Blindness or visual changes would be seen in pathology of the occipital cortex. Hearing may be damaged if trauma or pathology occurred to the temporal bone or inner ear. Seizures are unlikely to occur as a result from trauma or pathology of deep brain structures.

77.

A patient is diagnosed with Wernicke-Korsakoff syndrome (WKS). What is an important treatment for this condition?

Antiviral medication

Steroids

Antibiotics

Thiamine

Explanation:

Supplementation with thiamine, as well as other electrolytes such as magnesium and potassium is important in treating WKS. WKS typically presents with the classic triad of confusion, ataxia, and nystagmus commonly seen in chronic alcoholic patients.

78.

A patient is diagnosed with diffuse axonal injury (DAI). Which of the following radiological findings are most consistent with this diagnosis?

Hypodense convexity

Enlargement of the temporal horns of the lateral ventricles

Punctuate hypodensities and cerebral edema

Hypodense concavity

Explanation:

DAI is caused by shearing of the small blood vessels in the brain following an assault or high speed collision. CT scans may miss the findings associated with DAI. MRIs are the test of choice since they are more sensitive. A hypodense convexity best describes an epidural

hematoma. The enlargement of the temporal horns of the lateral ventricles describes findings associated with hydrocephalus. A hypodense concavity describes a subdural hematoma.

79.

Which of the following regarding astrocytomas is NOT correct?

Grade IV astrocytomas are benign

Astrocytomas arise from astrocytes

Chemotherapy and radiation are common treatments

Astrocytoma is the most common glioma

Explanation:

Astrocytomas arise from astrocytes, which are a type of glial cell; they are the most common glial tumor. Surgical resection in conjunction with chemotherapy and radiation are common treatments. Grades I and II are generally benign slow growing tumors seen in children, whereas grades III and IV are malignant and typically seen in adults.

80.

A 68-year-old male patient is admitted to the hospital for an acute lacunar infarct. His only known medical problem is iron deficiency anemia, but he has not been seen by a primary care physician in sixteen years. In the ER the patient's admission labs and vital signs are as follows: BP 175/99, EKG shows sinus bradycardia with a heart rate of 45 bpm, HA1c is 8.8%, Na 145, K 4.1, Cl 100, CO2, 30, BUN 19, Cr 1.2, glucose 386, LDL 155, HDL 38, cholesterol 251, WBC 10.1, hemoglobin 12.4, hematocrit 38.5, platelets 258,000. How many risk factors did this patient have for developing a stroke?

3

4

5

6

Explanation:

The patient has five risk factors: male sex, advanced age, hyperlipidemia, diabetes, and hypertension. As people become older their risk of stroke increases. Males tend to have strokes more often than females. His LDL and cholesterol are high and his HDL or "good" cholesterol is low (see chart below). A nondiabetic patient will have a hemoglobin A1c less than 5.7%. A hemoglobin A1c between 5.8-6.2% is a borderline diabetic; it may resolve with lifestyle modifications and diet. If the HA1c is above 6.2% the patient should be placed on oral anti-hyperglycemic medication(s). The goal HA1c in diabetic patients is <less than7.0%. The patient's blood pressure is also incredibly high which may have contributed to his stroke (see chart below).

LDL

<100 Optimal

100-129 Near Optimal

130-159 Borderline High

160-189 High

≥190 Very high

Total Cholesterol

<200 Desirable

200-239 Borderline High

≥240 High

HDL Cholesterol

<40 Low

≥60 High

Blood Pressure

<120/80 Optimal

120-139/80-89 Prehypertension

140-149/90-99 Stage I hypertension

>150/100 Stage II hypertension

81.

Which of the following would most likely be associated with an acute occipital lobe stroke?

Vision loss

Flat affect

Fluent aphasia

Impulsive inhibition difficulty

Explanation:

The occipital lobes house the primary vision centers so visual change or acute vision loss is a common finding in acute occipital lobe strokes. Posterior headaches are another common finding.

82.

A patient with a known history of renal cell carcinoma develops worsening headaches and confusion. An MRI of the brain reveals half a dozen bilateral brain metastases. Which of the following is not a likely intervention?

Surgical removal of the brain lesions

Oral steroids

Radiation therapy

Anticonvulsant drugs

Explanation:

Surgical removal of half a dozen bilateral brain lesions is not possible. If there was one particularly large lesion that was felt to be the primary cause of symptoms and the lesion was in an accessible location, surgical debulking may be attempted. However, in this patient's case, whole brain radiation therapy, anticonvulsant drugs, and steroid therapy would be the mainstays of treatment.

83.

What is the primary treatment of metastatic spinal tumors?

Surgical repair

Chemotherapy

Orthotic brace

Radiation

Explanation:

Radiation therapy is the most common treatment modality for spinal tumors. However, surgery and bracing is the second most common. Most spinal tumors are the result of metastatic disease. Prostate, lung, and breast cancer frequently spreads to the bone. Bony metastases are usually associated with a poorer prognosis.

84.

During a physical assessment the examiner has the patient hold their arms out in front of them. The patient flexes their wrists, letting their hands hang down. The examiner evaluates the patient to see if tingling, numbness, or pain in the fingers develops. What is this diagnostic test called and what condition does it indicate?

Phalen maneuver, ulnar nerve entrapment

Phalen maneuver, carpal tunnel syndrome

Tinel sign, ulnar nerve entrapment

Tinel sign, carpal tunnel syndrome

Explanation:

Compression on the median nerve which controls sensation and motor ability in the first, second, third, and fourth digits causes carpal tunnel syndrome. Repetitive motion, autoimmune diseases, and pregnancy predispose people to this condition. On physical exam the Phalen's sign may be positive. The medical practitioner may have the patient hold their arms out in front of them and then flex their wrists, letting their hands hang down for about sixty seconds. If numbness and tingling occur, the patient may have carpal tunnel syndrome.

85.

Which of the following tests helps diagnose benign paroxysmal positional vertigo (BPPV)?

Electroencephalogram

Dix-Hallpike maneuver

Caloric stimulation

Electrocochleography

Explanation:

The Dix-Hallpike maneuver is a classic diagnostic test for BPPV. The patient starts in sitting position on exam table facing forward with their eyes open. The examiner rapidly lies patient backward and turns the patient's head to the right with the neck extended hanging over end of table. The examiner has the patient rapidly sit back up and then repeats the maneuver with the patient's head facing toward the left. If rapid repositioning causes vertigo, but the patient is asymptomatic at rest, then the patient is diagnosed with BPPV.

86.

What would be considered reasonable management of a patient with a nondepressed skull fracture with a Glasgow Coma Scale (GCS) of 15?

Insert an external ventricular drain

Schedule a craniectomy

Follow up as an outpatient

Schedule a craniotomy

Explanation:

A patient with a nondepressed skull fracture who is neurologically intact can follow up as an outpatient as long as the attending felt that the patient would be compliant with follow up. No surgical intervention is warranted.

87.

A patient diagnosed with an oligodendroglioma is concerned about her lifespan and asks you about the prognosis about this condition. Which of the following is the most appropriate response?

The condition is curative with aggressive chemotherapy

The condition is terminal, but patients generally live for several years after symptom onset

Most patients generally die within months of the diagnosis

This is a benign condition

Explanation:

Oligodendrogliomas are indolent malignant primary brain tumors that are generally responsive to chemotherapy. Patients may live ten years or more after the initial onset of symptoms.

88.

A patient is diagnosed with amyotrophic lateral sclerosis (ALS) and the patient's wife is concerned about their children developing this condition. Which of the following is an appropriate response?

It is an x-linked chromosomal disease

It is an autosomal dominant disease

It is an autosomal recessive disease

Its etiology is unknown

Explanation:

The overwhelming majority of ALS cases are idiopathic. This neuromuscular degenerative disease occurs at random with no clearly associated risk factors. Individuals with this sporadic form of the disease do not have a family history of ALS, and their family members are not considered to be at increased risk for developing it. In a small majority of cases occur with a family history of this disease. Multiple gene mutations are involved with developing this condition.

89.

What is the most common treatment(s) for malignant pineal tumors (germinomas)?

Chemotherapy and radiation

Chemotherapy, radiation, and surgical resection

Surgical resection only

Chemotherapy only

Explanation:

Chemotherapy and radiation are the most effective treatments for germinomas. Germinomas are the most common type of malignant pineal tumor. The pineal gland controls the various bio-rhythms of the body. It helps regulate circadian rhythms by secreting melatonin as well as regulation of reproductive hormones. The cause of pineal malignancies is largely unknown. Signs and symptoms of malignancy include hydrocephalus, seizure, memory disturbances, and visual disturbances. Prognosis is very good with early aggressive treatment.

90.

Which of the following signs and symptoms are most commonly seen with oligodendromas?

Tinnitus, hearing loss, ataxia

Chorea, tardive dyskinesia, dementia

Recurrent syncopal episodes

Headache, seizure, personality changes

Explanation:

Oligodendromas are slow growing tumors that most commonly occur in the frontal and temporal lobes. The most common signs and symptoms are headaches, seizures, and

personality changes. The etiology of these types of tumors is unknown. They are typically treated with surgical resection, chemotherapy, and radiation.

91.

A patient has been brought to the hospital after being struck by a car. On physical exam the patient opens his eyes to noxious stimuli, is moving spontaneously but doesn't follow commands, and is confused but responds to questions. Which of the following is the most appropriate initial intervention?

Obtain a CT of the head

Intubate the patient

Administer an anti-epileptic drug

Place the patient in soft restraints

Explanation:

The patient likely has a traumatic brain injury and a CT of the head needs to be obtained. The patient's Glasgow Coma Scale (GCS) is an eleven. He should be admitted to an intensive care unit for close monitoring, but does not need to be intubated at this time. The general rule for GCS is "less than eight-intubate." There is no mention of seizure or agitation so antiepileptic drugs and restraints would be inappropriate measures.

Glasgow Coma Scale

Best Eye Response (E)	*Spontaneous – open with blinking at baseline*	*4*
	Opens to verbal command, speech, or shout	*3*
	Opens to pain, not applied to face	*2*

	None	*1*
	Oriented	*5*
	Confused conversation, but able to answer questions	*4*
Best Verbal Response (V)	*Inappropriate responses, words discernible*	*3*
	Incomprehensible speech	*2*
	None	*1*
	Obeys commands for movement	*6*
	Purposeful movement to painful stimulus	*5*
	Withdraws from pain	*4*
Best Motor Response (M)		
	Abnormal (spastic) flexion, decorticate posture	*3*
	Extensor (rigid) response, decerebrate posture	*2*
	None	*1*

92.

During a trauma work-up a 3 mm left middle cerebral artery aneurysm is found. The patient has a known history of tobacco abuse and hypertension, but no history of known aneurysms. What is the most appropriate advice to give the patient's spouse?

The patient's family members should be scanned for aneurysms

The patient will need serial imaging as an outpatient

Small aneurysms are a common incidental finding

This aneurysm will require urgent surgery

Explanation:

The patient's aneurysm is relatively small and will need to be monitored as an outpatient. Smoking, uncontrolled hypertension, vascular disorders such as Marfan's Syndrome, and genetics are common causes of aneurysms. The patient's family will likely not need to be scanned since the patient has several risk factors for developing an aneurysm. Aneurysms occur in a small percentage of the population and any time one is found it will require follow up. Urgent surgical intervention is indicated for aneurysms greater than 6 mm.

93.

A person is diagnosed with an aneurysmal subarachnoid hemorrhage. When is the highest likelihood that this patient will develop vasospasm?

1-2 weeks

2-3 weeks

3-4 weeks

More than 4 weeks

Explanation:

Vasospasm is a feared complication of those with ruptured aneurysms because it can lead to further brain injury. The highest risk for vasospasm occurs 14-21 days after the onset of the bleed. It can occur earlier or later than this time period, but the risk drops significantly.

94.

A patient has been diagnosed with chondrosarcoma. His wife is concerned about their children developing this condition. Which of the following is the most appropriate statement?

Children will need to be tested because it is an autosomal recessive condition

Only male children will need to be tested since it is an X-linked condition

Children will not need to be tested since the etiology is unknown

The children will not seed to be tested since tobacco use is the only known risk factor

Explanation:

Chondrosarcomas are rare tumors that occur on the sphenoid bone which frequently cause headaches and visual changes. Surgical resection is the mainstay of treatment. The etiology of this condition is unknown.

95.

Which of the following is the most common presenting symptom for a schwannoma?

Tinnitus

Dementia

Personality changes

Seizure

Explanation:

Unilateral tinnitus and hearing loss are the most common presenting symptoms of a person with a schwannoma. Schwannomas are slow growing benign tumors of the acoustic nerve. The etiology is unknown. Surgical resection is the mainstay of treatment.

96.

The destruction of which of the following neurotransmitters causes symptoms in Parkinson's disease?

Serotonin

Norepinephrine

Epinephrine

Dopamine

Explanation:

Parkinson's is a progressive neurodegenerative disease where the substantia nigra is slowly destroyed. The substantia nigra produces dopamine. Classic signs and symptoms of Parkinson's include shuffling gait, mask-like facies, rigidity, micrographia, and resting tremor.

97.

A patient presents with unilateral sharp, throbbing headaches associated with eye pain and watering. What is the most likely diagnosis?

Cluster headache

Trigeminal neuralgia

Tension headache

Fibromyalgia

Explanation:

Cluster headaches occur due to an unknown etiology. They are characterized by unilateral symptoms that may involve the eye on the ipsilateral side. Treatment includes triptan drugs, calcium channel blockers, and steroids.

98.

Which of the following is primarily responsible for the development of spina bifida?

Alcohol abuse

Tobacco abuse

Dietary deficiency

Genetic

Explanation:

Folate deficiency is the primary reason for development of spina bifida. Most medical practitioners recommend 800 mcg of folate per day while trying to conceive. Taking a folate supplement after conceiving will not help prevent spina bifida since the neural tube has already formed.

99.

A patient notices a unilateral upper extremity fine motor tremor that worsens with activity. It improves with rest. The patient has no other symptoms. What is the most likely diagnosis?

Simple motor seizure

Tourette's syndrome

Essential tremor

Parkinson's disease

Explanation:

This patient has essential tremor. It usually occurs in the 4-6th decades of life and improves with rest, but worsens with activity. In contrast, Parkinson's tremor improves with activity and is most noticeable with rest. Simple motors seizures are not affected by activity. Tourette's syndrome is characterized by involuntary tics or noises, which are not affected by activity.

100.

Which of the following malignancies is least likely to metastasize to the brain?

Pancreas

Lung

Breast

Melanoma

Explanation:

Although any cancer can spread to the brain, gastrointestinal malignancies have a smaller likelihood of doing so. The most common malignancies to metastasize to the brain are breast and lung cancer as well as malignant melanoma.

101.

Which of the following conditions are most likely to spread in a prison?

Amyotrophic lateral sclerosis

Meningitis

Cerebral abscess

Myasthenia gravis

Explanation:

Meningitis can be caused by fungi, viruses or bacteria and is passed through contact and respiratory droplets. It spreads quickly in those who live in close quarters such as college dormitories, prisons, and army barracks.

102.

Which of the following is the most appropriate treatment for essential tremor?

Propranolol (Inderal)

Baclofen (Lioresal)

Levetiracetam (Keppra)

Metoclopramide (Reglan)

Explanation:

Tremor is the most common movement disorder. The exact etiology for essential tremor is not known, but it is more likely to occur in those who have family members with this condition. Treatment of essential tremor usually begins with primidone (Mysoline) or propranolol (Inderal) monotherapy.

103.

Which of the following age groups is the most at risk for developing absence seizures?

5-10 years old

15-20 years old

35-40 years old

60-65 years old

Explanation:

Absence seizures generally involve short periods of spontaneously resolving blank staring episodes most commonly seen in children ages 4-14 years of age.

104.

A mother brings her child to the hospital after the child develops a new onset seizure. The child is found to have an ear infection. Their oral temperature is 102.1. Which of the following statements is true regarding this condition?

Febrile seizures may occur in children as young as three months to six years of age

Febrile seizures usually resolve with anticonvulsants

Febrile seizures do not have a genetic component

Febrile seizures may cause some neurologic impairment

Explanation:

Febrile seizures may occur in children as young as three months old to six years of age. The earlier a child has a febrile seizure, the higher likelihood that they will have another in the future. Anticonvulsant therapy is typically not used in the treatment of febrile seizures. Febrile seizures tend to run in families. There is minimal risk of neurologic impairment unless the patient suffers significant head trauma during the seizure.

105.

A patient is diagnosed with a brainstem stroke. Which of the following would not be affected?

Respiratory rate

Blood pressure

Heart rate

Language comprehension

Explanation:

Brainstem strokes affect functions that are essential for life such as heart rate, temperature control, swallowing, and blood pressure. Language comprehension and formation are affected with pathology of the temporal lobe.

106.

Which of the following illustrates the most common cause of carotid dissection in young patients?

A patient with a LDL of 155

A patient in a motor vehicle accident

A patient with a blood pressure of 165/112

A patient who has a history of tobacco abuse

Explanation:

Vascular disorders such as Marfan's syndrome, tobacco abuse, hypertension, and atherosclerosis are common causes of carotid dissection. Sometimes it may be due to an idiopathic cause. However, trauma to the neck is the most common reason for it to occur in young people. The treatment is the same no matter the etiology; people are treated with anticoagulation and antiplatelet regimens. Angioplasty is usually offered to those where anticoagulation is contraindicated.

107.

A child is born with dozens of café-au-lait spots and axillary freckling. What is the most likely diagnosis?

Hemangioblastoma

Meningioma

Neurofibromatosis

Craniopharyngioma

Explanation:

Neurofibromatosis occurs due to a genetic defect, which causes tumors to arise from nerve cells. Complications that may occur from this disorder include deafness, hypertension, seizures, hydrocephalus, scoliosis, pathologic fractures, kyphosis, and vision problems. Common signs and symptoms include light brown spots on the skin called café-au-lait spots, abnormal development of the spine, skull, or long bones, freckling in the area of the armpit or the groin, and disturbances in balance.

108.

Which of the following etiologies is most likely responsible to cause a basal ganglia bleed?

Motor vehicle accident

Aneurysmal rupture

Hypertension

Seizure

Explanation:

Chronic uncontrolled hypertension is the most common cause for basal ganglia and thalamic bleeds. Since these areas are deep in the brain, surgical evacuation is generally not performed. However, if the blood extends into the ventricles, hydrocephalus may develop warranting external ventricular drain placement.

109.

A 2nd trimester fetus is noted to have hydrocephalus and intracranial calcifications. The mother notes having nonspecific upper respiratory symptoms a few weeks ago, but the symptoms spontaneously resolved. The mother has no significant past medical history. Upon further investigation it is discovered she keeps several cats as pets. Which of the following is the most likely cause of the fetus's findings?

Cytomegalovirus

Toxoplasmosis

Syphilis

Parvovirus B19

Explanation:

The mother had toxoplasmosis and passed it to her unborn child. Toxoplasmosis is one of the TORCH viruses (Toxoplasmosis, Other, Rubella, Cytomegalovirus, and Herpes) which commonly cause fetal anomalies. Wild and domestic felines are the parasite's predominant hosts. Contact with infected feces, water bowls, or food trays can transmit the parasite to the mother with mild effects. However, the parasite can have devastating effects on the unborn fetus such as hearing loss, developmental delays, blindness, and hydrocephalus requiring shunting.

110.

A patient is diagnosed with a parietal lobe tumor. Which of the following would NOT be affected?

Reading

Memory

Writing

Calculations

Explanation:

Memory is primary controlled in the frontal and temporal lobes. The parietal lobe is responsible for reading, writing, calculations, and sensations.

111.

A patient has just undergone a lumbar puncture. Which of the following instructions are most appropriate to give to the patient?

You should lie flat for several hours

You may drink alcohol in moderation

You should limit your fluid intake

You can resume regular activity

Explanation:

In order to prevent the risk of developing a spinal headache, patients should lie flat, refrain from alcoholic beverages, increase their fluid intake, and be on light duty/activity 24-48 hours following the procedure.

112.

Which of the following most accurately describes how to diagnose epilepsy?

4 or more epileptic episodes in twenty-hour hours

2 or more epileptic episodes in twelve hours

2 or more epileptic episodes in twenty-hour hours

4 or more epileptic episodes in twelve hours

Explanation:

Epilepsy is defined as two more seizures that occur in a twenty-four-hour period with no preceding cause (i.e. trauma, overdose, illness).

113.

Which of the following most accurately describes a child born with fetal alcohol syndrome (FAS)?

Smooth philtrum, thin vermilion border, microcephaly

Jaundice, petechiae, hearing loss

Vesicular rash, poor feeding, seizures

Neurosensory deafness, mandibular hypoplasia, retinopathy

Explanation:

Fetal Alcohol Syndrome is the leading cause of preventable physical and mental fetal abnormalities. It presents with a variety of signs and symptoms but the classic triad is smooth philtrum, thin vermilion border, and microcephaly. Other signs and symptoms include impaired fine motor skills, neurosensory hearing loss, poor gait, clumsiness, poor impulse control, impaired communication, difficulty with math, and growth retardation.

114.

Which of the following signs and symptoms commonly occur with pellagra?

Paralysis, respiratory insufficiency, cognitive decline

Seizures, cortical blindness, developmental delay

Microcephaly, macroglossia, malnutrition

Diarrhea, dermatitis, dementia

Explanation:

Pellagra presents with the classic triad dermatitis, dementia, and diarrhea. Other signs and symptoms include ataxia, paralysis, and peripheral neuritis. It is due to simple dietary lack of niacin (vitamin B3), which can be found in meat, poultry, fish, eggs, and peanuts.

115.

A woman gives birth to a child with anencephaly. The mother requests the prognosis for this condition. Which of the following is the most appropriate response?

The prognosis is good with surgical intervention

The prognosis is guarded with surgical intervention

The child will likely have moderate motor and cognitive deficits

There is no treatment and the condition is fatal

Explanation:

Anencephaly is a condition in which the neural tube forms improperly and major parts of the brain fail to develop. Fetuses who survive with this condition are born without cerebral hemispheres, which govern thinking and coordination of movement. These babies usually don't live past infancy.

116.

A mother with a remote history of an unknown sexually transmitted disease gives birth to an infant who develops seizure, poor feeding, temperature instability, and full fontanel. Which of the following is most likely responsible for the baby's condition?

Genital warts

Herpes simplex II

Bacterial vaginosis

Chlamydia

Explanation:

Herpes simplex II is one of the TORCH viruses (Toxoplasmosis, Other, Rubella, Cytomegalovirus, and Herpes), which commonly cause fetal anomalies. Common signs and symptoms include lethargy, irritability, tremor, poor feeding, temperature instability, and full anterior fontanelle.

117.

A child with spina bifida develops worsening headaches and visual problems. An MRI of the brain reveals herniation of the brainstem and lower part of the cerebellum extending into the foramen magnum. Which type of Chiari malformation does this condition describe?

Type I

Type II

Type III

Type IV

Explanation:

This condition describes type II, which is the most common type of Chiari malformation. Type I is where the lower part of the cerebellum, but not the brainstem extends into the foramen magnum. Type III is where part of the cerebellum and the brainstem extend through the foramen magnum into the spinal cord causing severe neurologic impairment. Chiari malformation type IV is not associated with herniation of the brain through the foramen magnum; it involves an underdeveloped cerebellum. This type is usually fatal in infancy.

118.

A patient with a ventricular peritoneal shunt (VPS) underwent a MRI. Which of the following tests should be done before and after the MRI?

Transcranial dopplers

CT scan of the head

Skull series

Tinetti scores

Explanation:

Skull series are s special type of x-rays that should be taken before and after a MRI to confirm that the VPS dial has not shifted position. Transcranial dopplers are used to evaluate vasospasm in aneurysmal subarachnoid hemorrhages. CT scans do not evaluate the position of the VPS dial. Tinetti scores are used to measure ataxia and have no role in evaluating VPS placement.

119.

Which of the following is not an indicator of an anoxic brain injury in adults?

Bradycardia

Decorticate posturing

Babinski reflex

Fixed pupils

Explanation:

Bradycardia may be present in those with anoxic brain injuries, but is not a sign of brain injury. Signs and symptoms of anoxic brain injury may include no flow on a brain flow study, lack of respirations with ventilator support, loss of corneal or gag reflexes, decorticate posturing, abnormal reflexes such as the appearance of the Babinski reflex in adults, fixed pupils, and persistent vegetative state without underlying cause (i.e. hypothermia).

120.

A patient diagnosed with acute disseminating encephalomyelitis (ADEM) is placed on high dose steroids. Which of the following should be closely monitored?

Creatinine

Glucose

Troponin

Lactate

Explanation:

Patients on steroids need to be monitored for hyperglycemia, hypokalemia, and sleep disturbances. There may be mood changes (irritability, crying, anxiety) when people are on steroid therapy. Other reversible complications of steroid therapy include weight gain, flushed cheeks, and facial swelling.

121.

Which of the following transmission routes poses the highest risk of contracting Creutzfeldt-Jakob disease (CJD)?

Sexual transmission

Respiratory droplet

Exposure to spinal cord fluid

Blood transfusion

Explanation:

The risk of spreading CJD is low. It is spread through contact of infected brain tissue or spinal fluid. Sporadic CJD is not spread through airborne droplets, blood, or sexual contact. CJD is a transmissible spongiform encephalopathy that causes rapid neurological deterioration. There is no effective treatment, and the condition is always fatal.

122.

Which of the following is the most likely cause of cerebrovascular accidents in young patients?

Marijuana

Alcohol

Tobacco

Cocaine

Explanation:

Cocaine is a common cause of strokes in young patients. Tobacco and alcohol are risk factors for stroke, but generally need to be chronically abused over long periods of time. Cocaine can cause a stroke shortly after being used. Urine drug screens should be administered to all young patients who suffer can ischemic stroke that do not have any underlying risk factors (i.e. sickle cell disease).

123.

A female patient was admitted to the hospital for stroke. She has a known history of sickle cell disease and tobacco abuse. Her vital signs and lab studies are as follows: BP 126/69, EKG shows normal sinus rhythm, HA1c is 5.2%, Na 145, K 4.1, Cl 100, CO2 30, BUN 19, Cr 1.2, glucose 106, LDL 95, HDL 58, cholesterol 151, beta HCG 8,500mIU/mL, WBC 10.1, hemoglobin 12.4, hematocrit 38.5, platelets 258,000. How many risk factors did this patient have for developing a stroke?

One

Two

Three

Four

Explanation:

The patient has three risk factors for stroke. She has sickle cell disease, she uses tobacco products, and she is pregnant. Her beta HCG is 8,500mIU/mL. A normal beta HCG in nonpregnant females is 5mIU/mL. Pregnancy is a hypercoagulable state and can predispose those with existing underlying factors to developing a cerebrovascular accident.

124.

A patient arrives at the hospital status post assault with altered mental status. Her eyes open to noxious stimuli, she makes inappropriate responses to questions, and she is moving spontaneously, but is not following commands. Which of the following most accurately describes her Glasgow Coma Scale (GCS)?

E3V4M6

E2V4M5

E3V3M5

E2V3M5

Explanation:

The patient's Glasgow Coma Scale is ten. Her eye response is given two points, her verbal response is given three points, and her motor exam is given five points.

Glasgow Coma Scale

Best Eye Response (E) *Spontaneous – open with blinking at baseline* *4*

	Opens to verbal command, speech, or shout	*3*
	Opens to pain, not applied to face	*2*
	None	*1*
	Oriented	*5*
	Confused conversation, but able to answer questions	*4*
Best Verbal Response (V)	*Inappropriate responses, words discernible*	*3*
	Incomprehensible speech	*2*
	None	*1*
	Obeys commands for movement	*6*
	Purposeful movement to painful stimulus	*5*
	Withdraws from pain	*4*
Best Motor Response (M)		
	Abnormal (spastic) flexion, decorticate posture	*3*
	Extensor (rigid) response, decerebrate posture	*2*
	None	*1*

125.

A patient has been admitted for new onset seizures. During her hospital stay she is diagnosed with glioblastoma multiform. She refuses to tell her husband who is inquiring about the patient's diagnosis. Which of the following the next appropriate step?

Have the patient's primary care doctor tell the husband

Give the husband a copy of the radiology reports

Tell the husband in private

Request that the husband speak to his wife

Explanation:

Due to HIPAA (Health Insurance Portability and Accountability Act) a medical practitioner may not disclose medical information to anyone without the patient's consent. The patient is likely in denial about her diagnosis and would benefit from grief counseling or a psychiatrist evaluation.

126.

Which of the following signs and symptoms does NOT occur in both Parkinson's disease and Huntington's disease?

Chorea

Tremor

Ataxia

Muscle rigidity

Explanation:

Chorea is involuntary writhing movements that are seen in Huntington's disease and not in Parkinson's disease. Parkinson's disease is a progressive neurodegenerative disorder that presents classically with bradykinesia, micrographia, mask-like facies, muscle rigidity, resting tremor, and ataxia. It is due to the destruction of the substantia nigra which produces

dopamine. Huntington's disease is an autosomal dominant neurodegenerative disorder that presents with tremor, ataxia, chorea, mania, muscle rigidity, and seizure.

127.

Which of the following is the most common presenting symptom for Chiari malformation?

Facial palsy

Resting tremor

Ascending weakness

Occipital headaches

Explanation:

The signs and symptoms of Chiari malformation can vary greatly from one person to another. The most common associated symptom is occipital headache caused by the herniation of the brain through the skull base. Other signs and symptoms include diplopia, nystagmus, visual changes, and balance difficulties.

128.

A patient is brought to the hospital status post assault to the head with a blunt object. The patient opens his eyes to verbal commands, withdraws to noxious stimuli, and is making incomprehensible verbal responses. Which of the following Glasgow Coma Score (GCS) is correct regarding the patient's verbal ability?

One

Two

Three

Four

Explanation:

The patient's verbal ability is a two according to the GCS. Being oriented is five points, confused is four points, inappropriate is three points, incomprehensible is two points, and no verbal response is one point.

129.

A patient presents to the emergency room with a severe headache. A CT of the head is negative. An aneurismal subarachnoid hemorrhage is suspected and the patient undergoes a lumbar puncture. Which is true regarding the number of red blood cells in the first bottle of cerebrospinal fluid (CSF) compared to the fourth bottle?

The number of red blood cells stays the same

The number of red blood cells goes up

The number of red blood cells goes down

There is no set pattern

Explanation:

One way to diagnose an occult aneurysmal subarachnoid hemorrhage is to do a lumbar puncture and draw four bottles of CSF. In subarachnoid hemorrhages, the blood doesn't clear

and the number of red blood cells present is essentially the same in the first and fourth bottle. In traumatic lumbar punctures the number of red blood cells decreases with each successive tube drawn.

130.

Which of the following is not a therapeutic intervention for patients in vasospasm due to an aneurysmal subarachnoid hemorrhage?

Hypertension

Hemodilution

Hyperventilation

Hypervolemia

Explanation:

Triple H therapy for subarachnoid hemorrhages include induced hypertension through fluid boluses or vasopressors, hemodilution through aggressive IV fluid hydration, and hypervolemia through blood transfusions help treat vasospasm.

131.

Which of the following illustrates the classic triad seen in Parkinson's disease?

Hypokinesia, chorea, dementia

Ataxia, urinary incontinence, dementia

Ascending muscle weakness, paresthesias, dysphagia

Hypokinesia, resting tremor, rigidity

Explanation:

Hypokinesia, resting tremor, and muscle rigidity are the classic symptoms. However, Parkinson's can also include with mask-like facies, erectile dysfunction, micrographia, dementia, and postural instability.

132.

What is a common complication seen with a temporal bone fracture?

Chronic headaches

Meningitis

Cerebrospinal fluid (CSF) leak

Paralysis

Explanation:

A CSF leak from the ear canal is a common occurrence in temporal bone fractures since it houses many of the auditory structures. Meningitis may occur but it is not a common complication. Chronic headaches and paralysis are not complications of temporal bone fractures.

133.

A male patient was admitted to the hospital for stroke. He has a known history of cocaine use. His vital signs and lab studies are as follows: BP 201/89, EKG shows atrial fibrillation with 110 bpm, HA1c is 5.6%, complete blood count and basic metabolic panel are unremarkable. How many risk factors did this patient have for developing a stroke?

One

Two

Three

Four

Explanation:

Male sex, cocaine use, hypertension, and atrial fibrillation are all risk factors for stroke. Other risk factors can include pregnancy, hyperlipidemia, diabetes, coronary artery disease, obesity, and tobacco abuse.

134.

Which of the following signs is not part of Cushing's triad?

Unequal pupils

Hypertension

Bradycardia

Irregular respirations

Explanation:

Cushing's triad or reflex is seen with impending cerebral herniation. The classic symptoms include irregular respirations, bradycardia, and hypertension. Fixed pupils may be seen with herniation, but is not part of this clinical trial.

135.

What is the primary etiology of Pfeiffer Syndrome?

Development of cleft palate

Hemifacial atrophy

Underdevelopment of facial nerves

Premature fusion of cranial sutures

Explanation:

Pfeiffer Syndrome is a chromosomal disorder that results in the premature fusion of cranial sutures. It causes bulging eyes and an underdeveloped midface. There are usually no associated cognitive deficits.

136.

A patient status post motor vehicle accident is diagnosed with an 8 mm right parietal epidural hematoma. The patient had lost consciousness following the accident. Currently the patient's Glasgow Coma Scale (GCS) is fifteen. Which of the following is most appropriate intervention?

Discharge home

Surgical evacuation

Obtain serial imaging

External ventricular drain

Explanation:

Surgical evacuation is the most appropriate intervention for an epidural hematoma. They are extra-axial bleeds almost exclusively seen with high impact trauma. They may present with a lucid interval before patients develop neurological symptoms. Approximately twenty percent of epidural hemorrhages are fatal. The primary treatment is surgical evacuation.

137.

A patient has been admitted to the hospital for status epilepticus. The patient is currently postictal. Which of the following is the most important nursing consideration for managing the patient?

Obtain an electrocardiogram

Insert a central line

Prepare the patient for a lumbar puncture

Maintain an airway

Explanation:

Maintaining the airway is the most important factor in any situation. Although all postictal patients do not need to be intubated, if the patient is significantly lethargic, short-term respiratory support may be needed until neurological status returns to baseline. An electrocardiogram can be performed once the patient has stabilized. If the patient has sufficient peripheral access, a central line is not warranted. If the patient does not have sufficient access and the medical team is unable to place a peripheral line, an interosseous line can be placed in the interim. Depending on the suspected etiology of the seizure, a lumbar puncture may not be needed.

138.

A patient with an external ventricular drain (EVD) has an ICP of 30 mmHg. The output of the drain is very sluggish when it is opened. What is the next step?

Flush the drain proximally

Continue to monitor the ICP

Flush the drain distally

Call the attending/resident

Explanation:

Calling the attending/resident/physician's assistant on call is appropriate because the patient's ICP is high and the drain is not working. There may be a clot in the drain, which may or may not need to be flushed (this should not be done by the nurse). There are other reasons why a drain may not be working and it is up to the attending to decide what the next step should be. A normal ICP ranges from 0-20 mmHg. A sustained ICP of 30 may cause permanent brain injury; monitoring it without calling an attending is inappropriate.

139.

A patient is admitted for possible seizure. Her symptoms do not correspond with findings on electroencephalogram (EEG). Which lab should be ordered to help differentiate between seizure and pseudoseizure?

Prolactin

Vitamin D

Sodium

Erythrocyte sedimentation rate

Explanation:

An elevated prolactin level about twice baseline is fairly predictive of a seizure. Pseudoseizure is not diagnosed with one lab value or one test. The diagnosis is based on multiple factors: a normal prolactin level, atypical symptom presentation, and clinical suspicion of nonepileptic activity are all part of the diagnostic criteria.

140.

A child is diagnosed with a traumatic brain injury consistent with abuse. Which of the following is NOT an appropriate action?

Confront the child's mother about the abuse

Contact the Division of Youth and Family Services (DYFS) or other local department of child and family services

Have the patient placed on a 1:1 safety watch while visitors are present

Consult the case manager and social worker

Explanation:

It is not appropriate or professional for the medical provider to confront the child's parent. The parent may not be the person responsible for the abuse. If the parent is responsible for the abuse, it is the responsibility of the police and DYFS to confront the assailant.

141.

A patient admitted for stroke has exhibited impulsive behavior. Which of the following is NOT appropriate to prevent injury?

Soft restraints

Bed rails

Sedatives

1:1 safety watch

Explanation:

Sedative medications can make the patient even more confused and may increase the risk of fall. Sedatives may also cause a drop in blood pressure, which may worsen upon standing.

142.

A patient is diagnosed with a hemangioblastoma. The patient inquires what the first-line treatment is for her condition. Which of the following is the correct response?

Chemotherapy

Radiation

Palliative care

Surgical excision

Explanation:

Hemangioblastomas arise from endothelial cells and are due to chromosomal mutations. The treatment of choice is surgery. The prognosis is generally good and recurrence is relatively uncommon.

143.

What side effect should medical providers be aware of when administering intravenous phenytoin (Dilantin)?

Blindness

Malignant hyperthermia

Hypotension

Hyperemesis

Explanation:

Intravenous phenytoin can cause severe hypotension and should always be given to a patient who is on telemetry monitoring. Oral phenytoin has a significantly lower risk of cardiopulmonary complication. In the event the refractory hypotension occurs, the drug should be infused at a reduced rate or discontinued and substituted with another antiepileptic drug.

144.

Which of the following is incorrect regarding Friedreich's ataxia?

It is an autosomal dominant disorder

It increases the risk of scoliosis

It primarily affects children and young adults

Most patients require a wheelchair

Explanation:

Friedreich's ataxia is an autosomal recessive disorder that results in destruction of the myelin sheath of sensory neurons in the central nervous system. It primarily affects children and young adults. It is a progressive disorder. Patients eventually require the need for a wheelchair. Signs and symptoms include balance and coordination difficulties, muscle weakness, scoliosis, pes cavus, and cardiac abnormalities.

145.

Which of the following medications should be avoided in a patient with preexisting peripheral neuropathy?

Warfarin (Coumadin)

Phenytoin (Dilantin)

Mannitol (Osmitrol)

Aspirin (Ecotrin)

Explanation:

Phenytoin can cause reversible peripheral neuropathy and should be avoided when possible. Once the drug is discontinued, the peripheral neuropathy resolves.

146.

A patient arrives as a possible stroke alert. The patient is lethargic, but able to follow commands. The medical team has sent labs and is bringing the patient for a CT of the head without contrast. What else should be done during a possible stroke workup?

Feed the patient

Check a C-reactive protein (CRP)

Intubate the patient

Check blood glucose

Explanation:

Blood glucose should always be checked in patients that are lethargic. While serum glucose may take up to an hour to result, a fingerstick can result in less than a minute. A patient should remain NPO until all tests and labs have resulted. Feeding a patient who may need surgical intervention increases their risk for aspiration while under anesthesia. A CRP is a nonspecific