Review Test Submission: Hydrocephalus Quiz 1

Question 1

Common complications of VP or VA shunt malfunction include the following

Selected Answer: [None Given]
Correct Answer: Blockage and infection

Response Feedback: Common complications of VP shunt include shunt malfunction or blockage and infection. Malfuction may be related to growth and the shunt will need to be replaced with a longer catheter. Symptoms of shunt malfunction or infection include headache, fever, drowsiness and convulsions. As with any other brain surgery there is risk to actual brain tissue, as the shunt catheter must pass through brain tissue to enter the ventricle. Thus a small but potential risk of brain tissue being damaged with resulting neurologic deficit exists.

Question 2

Eighty percent of the CSF is produced where?

Selected Answer: [None Given]
Correct Answer: Choroid plexus

Response: Cerebrospinal Fluid or CSF is water-like fluid, which fills the ventricles or interior
Feedback: chambers of the brain, and surrounds the brain and spinal cord. It is produced by the choroid plexus (a structure lining the floor of the lateral ventricle and the roof of the third and fourth ventricles) as well as through the transfer of tissue fluid by the brain into the ventricles.

Question 3

Hydrocephalus may result from:

Selected Answer: [None Given]
Correct Answer: All of the above

Response Feedback: There are a number of causes of hydrocephalus; these are either developmental or genetic. Most cases of genetically caused hydrocephalus lead to several malformations, one, or more, of these will affect the nervous system. Blockage of CSF can be caused by a variety of conditions (spina bifida and other birth defects of the brain, certain brain infections (meningitis), hemorrhage within or around the brain, usually due to prematurity or a ruptured aneurysm, brain trauma, or tumors). The blockage can be within the ventricles themselves (obstructive hydrocephalus) or outside the brain in the areas where the spinal fluid is reabsorbed back into the blood stream (communicating hydrocephalus).

Question 4

The most common cause of non-communicating hydrocephalus is?

Selected Answer: [None Given]
Correct Answer: Aqueductal stenosis

Response Feedback: Non-communicating or obstructive hydrocephalus typically refers to hydrocephalus which develops as a result of a blockage in the normal circulation of cerebrospinal fluid (CSF) within the brain. In most cases it refers to a blockage between the third and fourth ventricles at the level of the Aqueduct of Sylvius, so called aqueductal obstruction. This can be due to scarring of this passage (aqueductal stenosis), or a tumor (in most cases a tectal glioma).

Question 5

What does the term communicating hydrocephalus means?

Selected Answer: [None Given]
Correct Answer: There is communication between the lateral ventricles and the spinal subarachnoid space.

Response Feedback: Communicating hydrocephalus refers to an inability of the CSF to pass through the arachnoidal villi to get back into the blood stream. This can result when the...
arachnoidal villi become inflamed, by infection or blood with the inflammatory process or blood clot blocking the microscopic pores through which the CSF must pass from the subarachnoid space into the blood.

**Question 6**

What is the etiology of aqueductal stenosis?

Selected Answer: ✗ [None Given]

Correct Answer: ✓ All of the above

Response Feedback:

A) The causes of intrinsic pathology of the Aqueduct include: 1. Septum or Membrane Formation 2. Forking of the Aqueduct (Most often seen with spina bifida) 3. Gliosis of the Aqueduct (Usually of infectious origin) 4. Stenosis of the Aqueduct (This may have a hereditary basis) B) Causes of extrinsic Pathology of the Aqueduct 1. Infections, abscesses, etc. 2. Neoplastic pineal tumors, brainstem gliomas, medulloblastoma, ependymoma. 3. Vascular, AVM, aneurysm, Galen aneurysm. 4. Developmental. arachnoid cysts.

**Question 7**

What is the most common cause of communicating hydrocephalus?

Selected Answer: ✗ [None Given]

Correct Answer: ✓ Post infectious (meningitis)

Response Feedback:

Bacterial infections of the meninges are extremely serious illnesses, and may result in death or brain damage even if treated. Meningitis of any etiology, but particularly with pyogenic and granulomatous forms, may lead to widespread destruction of the brain and blockage of the normal pathways for drainage of CSF.

**Question 8**

What is the normal intracranial pressure (ICP) in an adult (mmHg)?

Selected Answer: ✗ [None Given]

Correct Answer: ✓ 2-9 mmHg

Response Feedback:

As the cranial vault is essentially a closed, bony box, its volume is constant. This volume is described by the Monro-Kellie principle, proposed in the early part of the 19th century: v.intracranial (constant) = v.brain + v.CSF + v.blood + v.mass lesion As all these components are fluids, and non-compressible, once the cranial vault is filled, its pressure rises dramatically. This intracranial pressure (ICP) rise can lead to interruption of cerebral blood flow by reducing the cerebral perfusion pressure. The normal ICP is 0 - 10 mmHg.
Question 9

What statement better describes Normal Pressure Hydrocephalus (NPH)?

Selected Answer: [None Given]

Correct Answer: In patients with NPH, although the ventricles enlarge, the pressure of the CSF remains within normal range.

Response Feedback: Normal pressure hydrocephalus (NPH) is a type of hydrocephalus which usually occurs in older adults. NPH is an accumulation of cerebrospinal fluid (CSF), which causes the ventricles of the brain to enlarge. The enlarged ventricles of an NPH patient may not cause increased intracranial pressure, as is the case with most types of hydrocephalus. The abnormal accumulation of CSF, causing enlarged ventricles, is thought to stretch the nerve tissue of the brain causing a triad of symptoms. NPH normally occurs in adults 60-years and older, and in as many as 10% of all patients with symptoms of dementia. One quarter million Americans with some of the same symptoms as dementia, Alzheimer’s, or Parkinson’s may actually have NPH.

Question 10

Which answer better describes the route of flow of CSF

Selected Answer: [None Given]

Correct Answer: Lateral ventricles, foramina of Magendie and Luschka, perispinal subarachnoid spaces.

Response Feedback: CSF circulates through the ventricles, the fluid leaves the fourth ventricle through the Foramin of Magendie and the Foramina of Luschka. These empty into the cisterna magna and the brainstem cisterns. From there the fluid flows into the subarachoid fluid space (around the brain and spinal cord).

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