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Semsetr 4<sup>th</sup>

Dpt

Paper Antomay

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Question 1

Write a comprehensive note on the blood supply of Brian

**Answer**

Blood supply of the brain

The brain receive it arterial supply form two pair's of vessels the vertebral and internal carotid arteries which are inter connected in the cranial cavity to produce an arterial circle

### Internal carotid Artery

Begins- bifurcation of com carotid a

Perforates base of skull – carotid

Enters middle cranial fossa beside dorsum sells in the ca

Vernous sinus

Emerges out-medial side of ant clinoid process perforates dura and arachnoid mater -enters subarachnoid space

Turns posterior – below optic nerve

Turns upward -lateral to optic chiasma

Divide into anterior and middle cerebral arteries

### Vertebral Artery

Branch of first part of subclavian A

Passes foramen transvesarium c6,c1

Enters through foramen magnum -perforates dura and arachnoid mater. Enters subarachnoid space

Turns upward forward medially medulla oblongata

Lower border of pons-join opposite side Basilar artery

## Vertebral

Basilar

Posterior cerebral artery

## Internal carotid

Middle cerebral

Anterior cerebral

Anterior communicating artery

Posterior communicating artery

## Names off the arteries

1. Ant
2. Anterior communicating artery
3. Anterior cerebral arteries
4. Middle cerebral artery
5. Internal carotid Artery
6. Posterior communicating artery
7. Posterior cerebral artery
8. Superior cerebral artery
9. Basilar artery
- 10.
11. Anterior inferior cerebral artery
12. Posterior inferior artery
13. Anterior spinal artery

## Question #2

Which type of stroke is common ?write ....?

## Answer

Stroke

## Definition

A stroke is medical emergency in which the blood supply to any portion of the brain interrupted or reduce.

Alternative names

1. Cerebrovascular accident disease .
2. Cerebral infarction
3. Cerebral haemorrhage

Stroke is the third leading cause of death in the United States.

## Symptoms

- Paralysis or weakness in the face
- Arms and legs
- Confusion
- Personality changes in eyesight
- Decreased motor skills
- Severe headaches

## Common type of stroke

Lacunar stroke

### **Definition**

Lacunar stroke or lacunar infarct is the most common type of ischaemic stroke. Resulting from the occlusion of small penetrating arteries.

## Ischemic stroke

### Definition

A blood vessels become blocked and the blood supply to that part of the brain is blocked

## Types of ischemic stroke

- Thrombotic stroke
- Symbolic stroke

## Treatment of ischemic stroke

Tissues plasminogen activator can be given within three hours from the onset of symptoms

In addition to being used to treat stroke the following can also be used as preventing measures.

- Anticoagulants/ antiplatelets
- Carotid Endarterectomy
- Angioplasty stents

## Transient ischemic Attack

Blood supply to the brain is only briefly interrupted

Symptoms do not last long

Warning stroke-steps should be taken to prevent future stroke

## Risk

- Tia

- CAD
- High blood pressure
- High cholesterol
- Smoking
- Heart disease
- Diabetes
- Excessive alcohol
- Consumption
- Age
- Sex
- Race
- Obesity

## Prevention

- Control high blood pressure
- Lower cholesterol
- Quit smoking
- Control diabetes
- Maintain healthy weight
- Exercise
- Manage stress
- Eat a healthy diet

## Prognosis

The results of a stroke vary depending on the size and location the presence of any associated medical problems and the likelihood of recurring strokes.

Dysfunction correspond to the area in the brain that had been damaged.

## Question 3

What do you know about the thalamic.....?

## Answer

### **Definition**

The thalamus is a paired structures located in the center of the brain each side *is* divided into three groups of thalamic nuclei

A lateral nuclear group

Medial nuclear group

Anterior nuclear group

These three groups are

Split by the internal medullary lamina a Y shaped structure present on each side of the thalamus.

## Thalamic lesions

Cerebrovascular lesions or tumors of the thalamus lead to

Loss of sensation in the contralateral side of face and body followed by distressing discomfort and burning and diffuse pain in the anaesthetic areas thalamus pain

Thalamic syndrome. Abnormal voluntary movement (chorea or hemiballismus) with hemisensory disturbances

**Surgical** relief of pain by the thalamus cauterization

Interlaminar nuclei

## Anterior nuclear group

- Anteroventral
- Anteromedial
- Anterodorsal

## Function

Functionally part of the limbic system. Involved in control of instinctive emotional aspects of behaviour and in memory

## Medial nuclear group

In.med lamina

- Interlaminar nuclei
- Medline nuclei
- Pulvinar
- Medial geniculate nucleus
- Lateral geniculate nucleus
- Anterior

Reticular nucleus

## Function

Integrates emotions thought and judgment

## Dorsal tier

Lateral dorsal

Lateral posterior

Pulvinar

## Question number 4

Descending roots of spinal cord..?

### Answer

#### Descending roots of spinal cord..

The descending tracks are the pathway by which motor signals are sent from the higher to lower motor neurons. The lower motor neuron then directly innervates muscle to produce movement.

The descending tracks are divided into the two major groups.

#### Pyramidal track

The pyramidal tracks derived their name from the medulla oblongata which they pass.

The tracks originate in the cerebral cortex carrying motor signals from the brain to the spinal cord and brain stems. Responsible for the musculature of the body and face. These tracks can be subarachnoid divided into

Corticospinal track: supplies musculature of the body.

**Corticospinal** track in the cerebral cortex from which they receive a range of inputs

Primary motor cortex

Premotor cortex

Supplementary motor area

Corticobulbar tract

The corticobulbar tract arise from the lateral aspects of the primary motor cortex they receive the same input as the corticospinal tract pass through the internal capsule the brain stem *carry motor signals to the muscle of face and neck*

#### Extrapyramidal TRACT

The extrapyramidal is originate from the brain stem carrying motor fibers to the spinal cord. *they are responsible for the involuntary and automatic of all musculature*

#### Example

Example are muscle tone balance posture and locomotion

The extrapyramidal tract are consist of four tracts

Vestibulospinal tracts

Reticulospinal tracts

Tectospinal tracts

Rubrospinal tract

## Question ##5

Autonomic system....?sympathetic and pyrasympathetic

### Answer

Autonomic system

#### Definition

The autonomic nervous system is the part of the nervous system that supplies the internal organs including the blood vessels stomach intestine liver kidney bladder genitals lungs pupils heart and sweat salivary and digestive glands the autonomic nervous system has two main divisions.

## Difference between the sympathetic and pyrasympathetic nervous system.

Both of these system control the same group of body function but they have opposite effects on the function that they regulate. The sympathetic nervous system prepare the body for intense physical activity and is often referred to as the fight or flight response. The parasympathetic nervous system has almost the exact opposite effects and relax the body and inhabit or slows many heigh energy function the effect of the parasympathetic nervous system can be summarised by the phrase rest and

## Function of pyrasympathetic

Constriction pupils

Stimulus saliva

Slow heart beat

Constrict airway

Stimulate activity of stomach

Stimulus gallbladder

Stimulus.activity of intestine

Contract bladder

## Function of sympathetic

Dilate inhibits

Increase heart beat

Relax airway

Inhibit activity of stomach

Inhibit gallbladder

Inhibit activity of intestine

Secret epinephrine norepinephrine

Relax bladder

These are the main difference between sympathetic and parasympathetic nervous system.