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PAPER Radiological Anatomy

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Q No 01

Ans:- Structure of Eye:-

There are three coats in the eye.

① Fibrous coat
② Vascular Coat
③ Inner Nerous Coat

Fibrous Coat:-

The fibrous coat of the eye is the outermost coat. It consists with each other. Their main functions are to provide shape to the eye and support the deeper structures.

The sclera comprises the majority of the fibrous layer (approximately 85%) It provides attachment to the extraocular muscles. These muscles are responsible for the movement of the eye. It is visible as the white part of the eye.

The cornea is the transparent and positioned centrally at the front of

the eye. Light entering the eye is refracted by the cornea.

② Vascular Coat :-

The vascular coat of the eye lies underneath the fibrous layer. It consist of the choroid, ciliary body and iris.

Ciliary body comparised of two parts the ciliary muscle and ciliary processes. The ~~ciliary~~ ciliary muscle consist of a collection of smooth muscles fibrous. These are attached to the lens of the eye by the ciliary processes. The ciliary body controls the shape of the lens, and contributes to the formation of aqueous humor.

Iris has circular structure with an aperture in the centre the pupil. The diameter of the pupil is altered by smooth muscle fibres within the iris which are innervated

By the automatic nervous system.

(3) Inner Nervous Coat:-

The inner Nervous coat of the eye is formed by the retina, its light detecting component. The retina is composed of two layers.

- Pigmented (outer) coat:- formed by a single layer of cells, it is attached to the choroid, and supports the choroid in absorbing light (preventing scattering of light within the eyeball). whole inner & surface of the eye.
- Neural inner Coat:-

Consist of photorec-eptors, the light detecting cells of the retina. it is located posteriorly and laterally in the eye.

Question No 01

Part B

Ans:- The foramina found in the base of skull are given below:-

1. Cribriform plate Olfactory n (CN I)
2. Optic canal Optic n (CN II)
3. Superior orbital fissure
   Oculomotor n (CN III)
   Trochlear n (CN IV)
   Opthalmic n ($CN V_1$)
   Abducens n (CN VI)
4. Foramen rotundum Maxillary n ($CN V_2$)
5. Foramen Ovale Mandibular n ($CN V_3$)
6. Internal acoustic meatus
   facial n (CN VII)
   Vestibulocochlear n (CN VIII)

(6) Jugular foramen Glosopharyngeal n (CN IX)
Vagus n (CN X)
Accessory n (CN XI)

(7) Hypoglossal Canal
Hypoglossal n (CN XII).

Q No 02

Ans:

MUSCLE	ORIGIN	INSERTION
Gracilis	Inferior ramus of Pubis, ramus of ischium	Upper part of Shaft of tibia on medical surface
Adductor longus	Body of Pubis medical to pubic tubercle	Posterior surface of shaft of femur (linea aspera)
Adductor brevis	Inferior ramus of Pubis.	Posterior surface of shaft of femur (linea aspera)
Adductor magnus	Inferior ramus Pubis, rami of ischium, ischial tuberosity	Posterior surface of shaft of femur adductor tubercle of femur
Obturator externus	outer surface of obturator membrane and Pubic and ischial rami	Medial surface of greater trochanter

Q No 04

Ans:- Suture of Skull

1. Sagittal Suture:-

The Sagittal Suture is a dense, fibrous Connective tissue joint between the two parietal bones of the Skull. The term is derived from the latin word Sagitta

2. Lambdoid Suture:-

The lambdoid Suture or lambdoidal Suture is a dense, fibrous Connective tissue joint on the posterior aspect of the Skull that connects the parietal.

3. Coronal Suture:-

Coronal Suture is a dense, fibrous Connective tissue joint that Separates the

two parietal bones from the frontal bone of the Skull.
If certain bone of the Skull. with the Suture known as woomain bones or Sutural bones. Most Commonly these are found in the course of the lambdoid suture.
The Human Skull is generally Craniosynostosis (restrict from Cloverleaf Skull.

Trigeminal Nerve

Is the fifth cranial Nerve or Simply CN V) is a nerve responsible for Sensation in the face and motor functions such as biting and chewing it is the most Complex of the cranial Nerves. Its name is Trigeminal Nerve (Trigeminal = tri or three and geminus, or twin - twinned) derives from the fact that each of the two nerves (one on each side of the Pons) has the major Branches.

Branches Of Trigeminal Nerve:

1. Ophthalmic Nerve
2. Maxillary Nerve
3. Mandibular Nerve

* **Ophthalmic Nerve or V_1**

Is one of three division of the trigeminal Nerve (CN V). It has three branches that provide Sensory innervation to the eye, Skin of the upper face and Anterior scalp.

* **Maxillary Nerve:- V_2**

Is one of the three branches or division of the trigeminal nerve the fifth (CN V) cranial nerve. It Comprises the principal functions of Sensation from the maxilla, nasal Cavity, Sinuses, the plate and subsequently that of the mid-face, and is intermediate, both in position and Size between the Ophthalmic Nerve and the Mandibular Nerve.

* Mandibular Nerve :-

The Mandibular Nerve (V_3) is the largest of the trigeminal nerve, the fifth cranial nerve (CN V).

Q No 05

Answer :

Spinal Cord :-

Spinal cord is a tubular bundle of nervous tissue and supporting cells that extends from the brainstem to the lumber vertebrae. Together, the spinal cord and the brain form the central nervous system.

In the article, we shall examine the ~~or~~ macroscopic anatomy of the Spinal Cord. Its Structure Membranous Covering and blood Supply.

Anatomical Position And Structure:

The Spinal Cord is the Cylindrical structure, greyish-white in colour. It has a relatively simple anatomical course.

- The Spinal cord arises cranially as a continuation of the medulla oblongata (part of the brainstem)
- It then travel inferiorly within the vertebral Canal, surrounded by the Spinal meaning containing cerebrospinal fluid.
- At the L_2 vertebral level the Spinal cord tapers off, forming the conus medullaris. As a result of the termination of the Spinal cord at the L_2, it occupies around two thirds of the vertebral Canal. The Spinal nerves that arise from the end of the Spinal cord.

Forming a structure known as cauda equina.

During the course of the spinal cord, there are two points of enlargement.

The cervical enlargement is located proximally, at the C4–T1 level. It represents the origin of the brachial plexus. Between T11 and L1 is the lumbar enlargement. representing the origin of the lumbar and sacral plexi.

Pharynge with enumeration to its constrictors is given below:

* Superior Pharyngeal Constrictor:

The uppermost pharyngeal constrictor. it is located in the oropharynx.

- Originates from the pterygomandibular ligament, alveolar process of the mandible and medial pterygoid plate and pterygoid hamulus of the sphenoid bone.

- Insert Posteriorly into the Pharyngeal tubercle of the occiput and the median pharyngeal raphe.

* Middle Pharyngeal Constrictor :-
They are located in the laryngopharynx.
- Originates from the stylohyoid ligament and the horns of the hyoid bone.
- Insert posteriorly into the pharyngeal raphe.

* Inferior Pharyngeal Constrictor :-
They are located in the laryngopharynx.
It has two components:
- Superior Component (thyropharyngeal) has oblique fibres that attach to the thyroid cartilage.
- Inferior Component (cricopharyngeous) has horizontal fibres that attach to the cricoid cartilage.

All pharyngeal Constricators are innervated by the Vagus nerve (CN X).

Q No 03

Answer :

Injury of external laryngul Nerve :-

Injury of the superior laryngel nerve occurs as a complication of the thyroidectomy, it will result in paralysis of the cricithyroid muscle and Anesthesia of the region above the level of the vocal fold. It tend to be however the external laryngel branch that is effected it can occurs is the complication of a thyroidectomy. it will result in paralises of the cricothyroid muscle and anesthesia of the region above the level of the vocal fold it tend to be however the external laryngeal branch that is effected there for it would effect only the cricothyroid muscle some patient may not have any significent

cequences of this while other may have difficulty in changing the pitch of their voice and reduce stamina in their voice.

This can have disastrous consequences for those who use their voice in their carcad for example singers and public speaker.

The Facial Nerve :-

- The facial nerve supplies motor branches to the muscles of facial expression.
- This nerve is therefore testes by asking the patient to cocase up their forehead (reise their eye brows) close their eyes and keep them closed against resistance, puff out their checks and reveal their teeth.

Q No 05

Spinal Cords

Diagram