anatomy lecture .
Lec. No.1

تشريح

Lecture: 1

Head and neck

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Scalp

Consist of five layers:

1- S= Skin:- which is thick contains sweat, sebaceous gland and hair follicles.

2- C= Connective tissue:- dense collagen fibers contain blood vessels and nerves, the collagen fibers adhere to the wall of the blood vessels so prevent the vessels from contraction during injury.

3- A= Epicranial aponeurosis:- which is flat membrane connect the frontal and occipital bellies of occipitofrontalis muscle.

4- L= Loose areolar tissue:- which is a vascular layer deep to the aponeurosis, this tissue allows the scalp to slide freely on the periosteum.

5- P= Periosteum:- which covers the outer surface of the skull and continuous through the sutures with the endosteal layer inside the cranium.

Muscles of the scalp:

Occipitofrontalis muscle:-

Consist of two pairs of bellies (occipital and frontal). The occipital bellies are shorter and narrower than the frontal bellies and are widely separated by the aponeurosis, each of the occipital bellies arises from the lateral part of the corresponding superior nuchal line.

The frontal bellies arise from the aponeurosis and inserted in to the skin of the eye brows and nose, it has no bony attachment.

Nerve supply:- facial nerve.

Action:- rises the eye brow and wrinkles the forhead

Auricular muscles:-

There are three muscles superior, anterior and posterior all supplied by facial nerve.

Nerves of the scalp:-

A-anterior to the pinna of the ear:- is by the branches of trigeminal nerve which are:-

--from the ophthalmic division of trigeminal nerve:

1- **Supraorbital nerve:-** arises from the frontal nerve of ophthalmic division of trigeminal nerve, emerges through the supraorbital notch and supplies the upper eyelid.

2- **Supratrochlear nerve:-**arises from the frontal nerve and emerges at the supra-orbital margin finger breadth from the median plane, supplies paramedian part of the forehead and medial part of the upper eyelid.

--from the maxillary division of trigeminal nerve:-

1- **Zygomaticotemporal nerve:-** which supplies the skin of the anterior part of the temple.

--from mandibular division of trigeminal nerve :-

1- **Auriculotemporal nerve:-** emerges from the upper end of parotid gland close to the auricle at the root of zygomatic arch. It supplies the upper part of the auricle, external acoustic meatus and the skin of the side of the head.

B-posterior to the pinna of the ear:- the scalp is supplied by the upper three cervical nerves

1- **Great occipital nerve:-** is the dorsal rami of (C2) enters the scalp with the occipital artery by piercing the trapezius and the deep fascia 2.5 cm from the external occipital protuberance.

2- **Third occipital nerve:-** arises from C3 dorsal rami it supplies the nape of the neck.

3- **Lesser occipital nerve:-** arises from C2 ventral rami and sometimes C3, ascend along the posterior border of sternocleidomastoid muscle supplies the scalp behind and above the ear.

Also there is another nerve involves in supplying the scalp which is the **great auricular nerve** arises from C2 and C3 ventral rami crosses the sternocleidomastoid muscle from the posterior triangle and supplies the skin of the postero-inferior part of the jaw and lower part of the auricle.

Blood supply of the scalp:-

A- **Arterial supply:-** the scalp is richly supplied by blood from external and internal carotid artery.

--from the external carotid artery:-

1- **Superficial temporal artery:-** this large and terminal branch of external carotid artery begins behind the neck of mandible deep to the parotid gland, it runs with the auriculotemporal nerve behind it then divided into anterior and posterior branch to the frontal and parietal eminences respectively.

Branches:-

--transverse facial.

--zygomatico-orbital.

--middle temporal.

--anterior auricular.

--frontal and parietal branches.

2- **Posterior auricular artery:-** small branch of external carotid artery arises deep to the parotid gland, it runs in posterior superficial lobule and between the root of the auricle with the posterior auricular nerve.

3-Occipital artery:- large branch of external carotid artery arises deep to the angle of mandible passes upward backward through the occipital groove of the mastoid bone accompanied by the great occipital nerve.

-from the internal carotid artery:-

1- Supraorbital artery:- branch of ophthalmic artery of internal carotid artery emerges from supraorbital notch with supraorbital vein and distributed with supraorbital nerve.

2-Supratrochlear artery:- on of the terminal branch of ophthalmic artery passes through the upper medial angle of the orbit accompanied with the supratrochlear nerve.

B-viens of the scalp:

1-Supratrochlear and **2- Supraorbital veins** unite at the medial angle of the eye to form the facial vein.

3-Retromandibular vein forms by the union of superficial temporal vein and middle temporal vein.

4-Posterior auricular vein unites with the posterior branch of retromandibular vein to form the external jugular vein on the surface of sternocleidomastoid muscle.

5-Occipital vein runs with the occipital artery in the scalp, it drains to the suboccipital plexus of veins in the suboccipital triangle.

6-Emissary veins pierce the skull and connect this system of veins with the venous sinuses inside the skull.

Lymphatic drainage of the scalp:-

1- The area infront of the ear drain in a small parotid lymph nodes(pre-auricular nodes).

2- The area behind the ear drain in to those nodes on the upper end of trapezius (occipital lymph nodes) and sternocleidomastoid muscles (retro-auricular nodes).

The face

Contains the orifices of the orbit, the nose and the mouth, it forms of numbers of bones and contains large number of muscles(muscles of facial expression), these muscles are small except the Buccinator which forms the cheek, the Orbicularis oris which forms the upper and lower lips and Orbicularis oculi which surrounds the eyeball from outside.

The motor innervations of the face is by facial nerve.

The sensory innervations of the face is by trigeminal nerve.

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