جامعة المستقبل
كلية التقنيات والعلوم الصحية
قسم تقنيات البصريات

المرحلة الاولى ٢٠٢٣-٢٠٢٤

Anatomy of the eye

5th Lecture : Nerves of orbit and types –Optic canal

Dr. Ali Hussein Al-Nasrawi
Otorhinolaryngologist and Medical LASER specialist

The nerves of the orbit play a crucial role in vision, eye movements, and overall sensory perception.

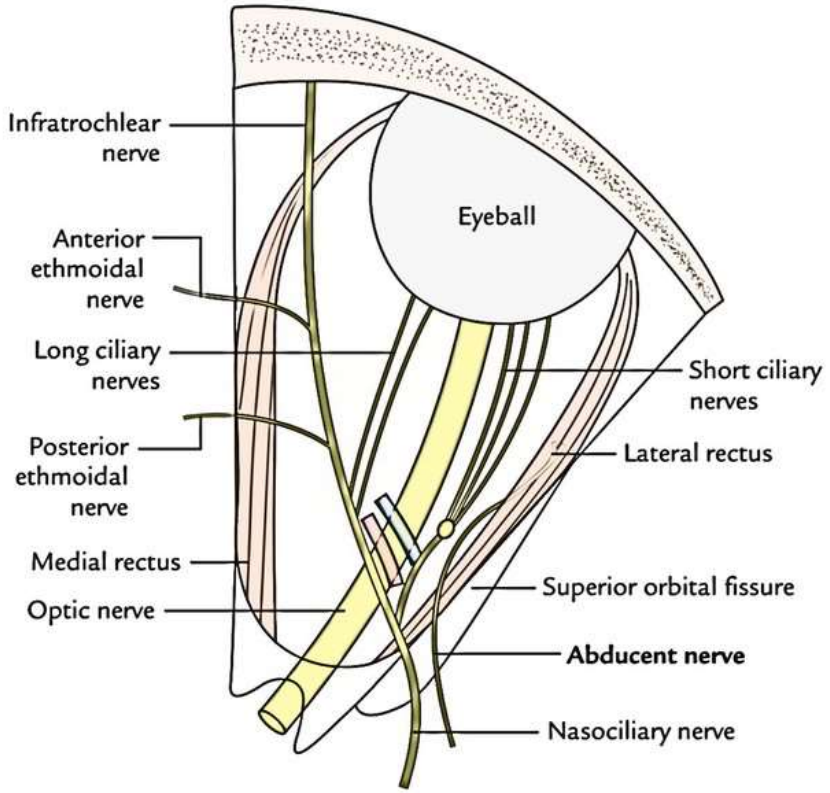
Types of Nerve Supply to the Orbits

•The orbits receive their nerve supply from various sources, contributing to different functions and sensory perceptions.

1.Optic Nerve (Cranial Nerve II):

•The optic nerve is the primary nerve responsible for vision.

•It carries visual information from the retina to the brain, allowing us to perceive light, shapes, colors, and other visual stimuli.



2.Oculomotor Nerve (Cranial Nerve III):

•The oculomotor nerve innervates several muscles within the orbit, controlling eye movements and positioning.

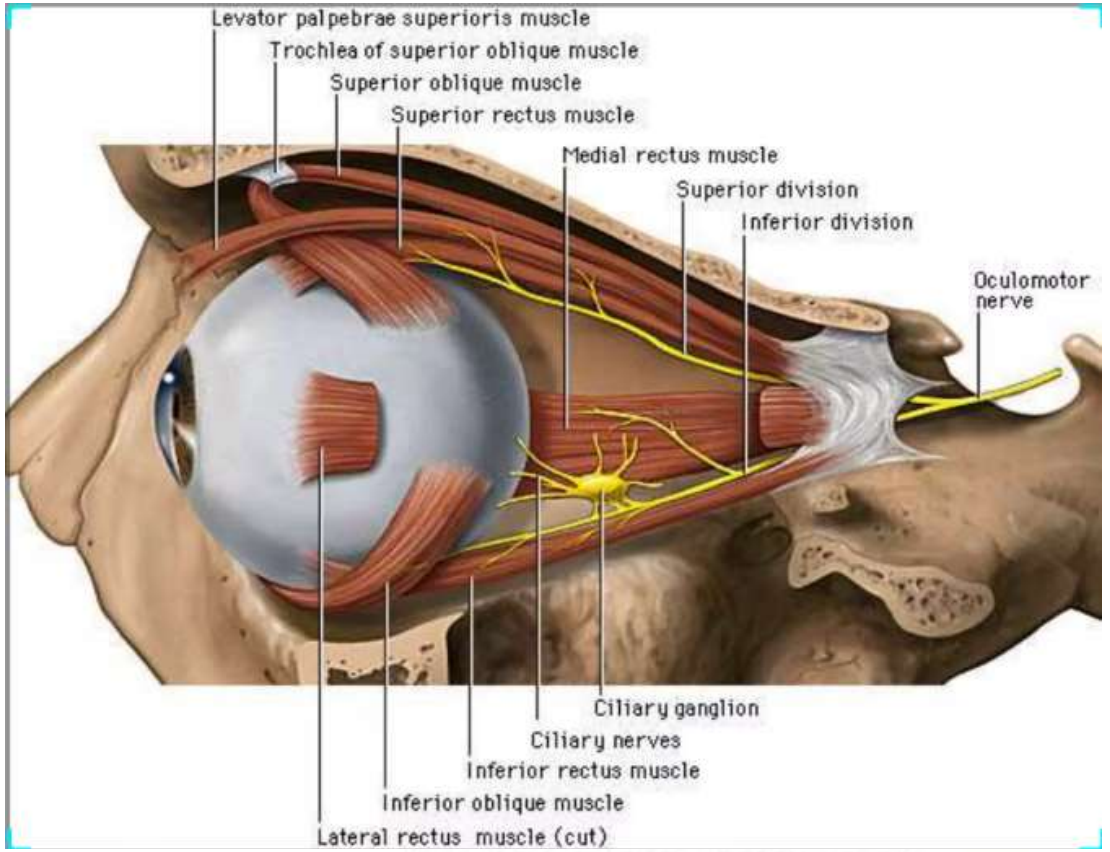
•It supplies the superior rectus, inferior rectus, medial rectus, and inferior oblique muscles, contributing to vertical, horizontal, and rotational eye movements.

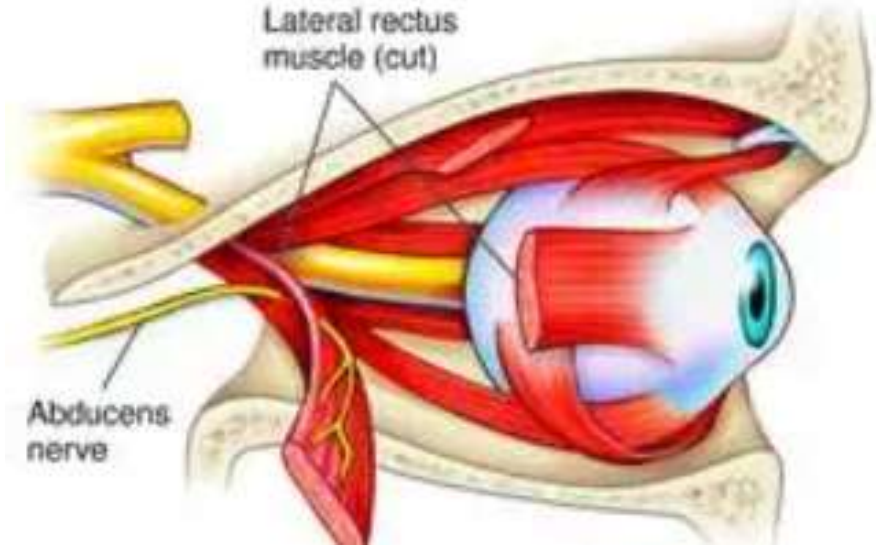
3.Trochlear Nerve (Cranial Nerve IV):

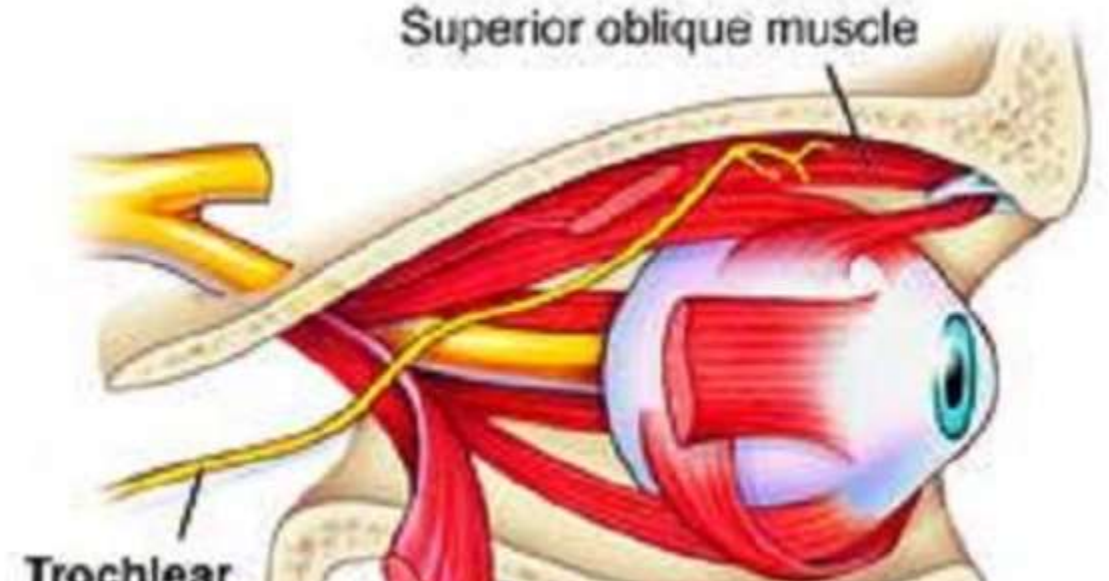
•The trochlear nerve provides motor innervation to the superior oblique muscle, which is involved in downward and outward eye movements.

4.Abducens Nerve (Cranial Nerve VI):

•The abducens nerve innervates the lateral rectus muscle, which is responsible for outward (abduction) eye movements.







Optic Canal

•The optic canal is a crucial anatomical structure through which the optic nerve passes, connecting the orbit to the cranial cavity.

1.Location and Boundaries:

•The optic canal is located at the posterior aspect of the orbit, near the medial wall.

•It is formed by the lesser wing of the sphenoid bone.

•The optic canal opens into the middle cranial fossa, which houses the brain.

2.Contents:

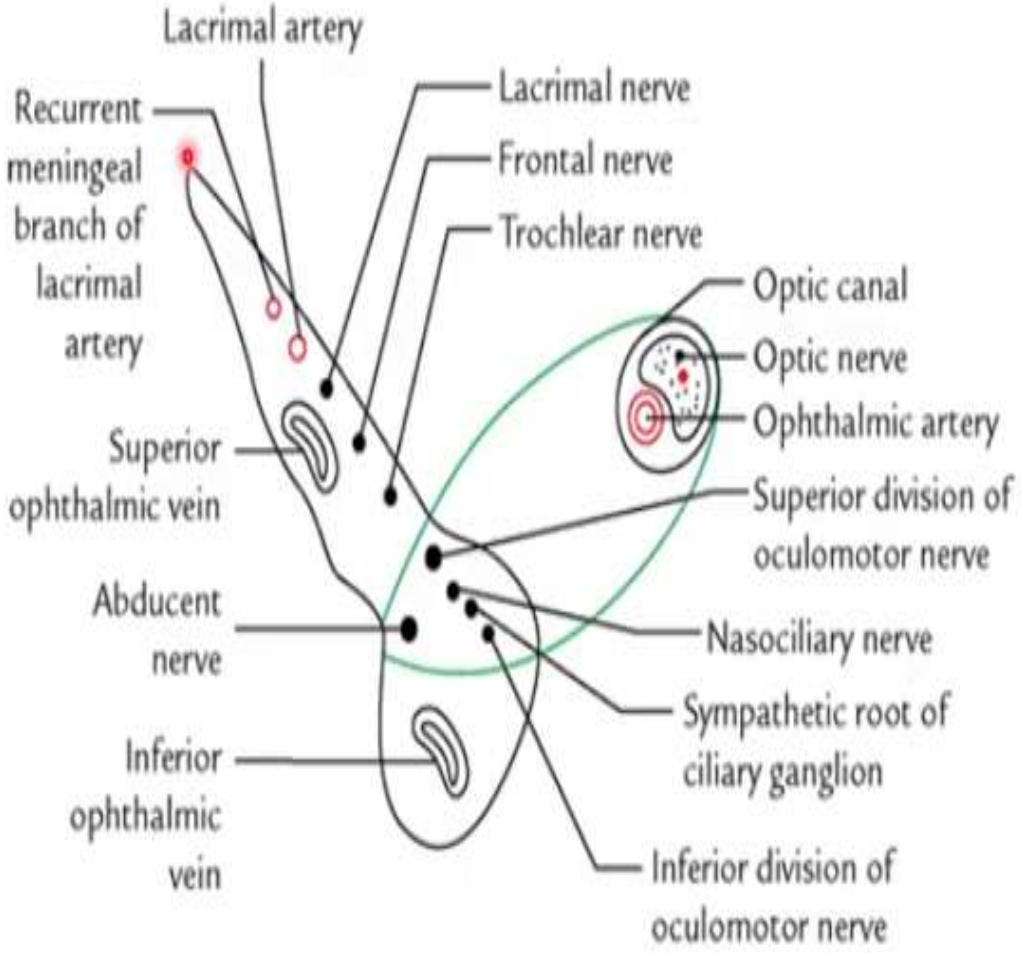
•The main structure that passes through the optic canal is the optic nerve (cranial nerve II).

•Additionally, the ophthalmic artery, a branch of the internal carotid artery, also traverses the optic canal alongside the optic nerve.

3.Significance:

•The optic canal serves as a protective conduit for the optic nerve and the ophthalmic artery as they travel between the orbit and the cranial cavity.

•It provides structural support and helps maintain the integrity of these vital structures.



Summary

- The orbits receive nerve supply from various cranial nerves, including the optic nerve (cranial nerve II), oculomotor nerve (cranial nerve III), trochlear nerve (cranial nerve IV), and abducens nerve (cranial nerve VI).
- The optic nerve is primarily responsible for vision, while the other nerves control eye movements and positioning.
- The optic canal is an important anatomical structure through which the optic nerve and ophthalmic artery pass, connecting the orbit to the cranial cavity and providing protection to these vital structures.

THANKS SEE YOU IN NEXT LECTURE