



المرحلة الثانية ٢٠٢٣-٢٠٢٤

Anatomy of the eye

14th Lecture : **Blood and Nerve Supply of the Eye**

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Blood and Nerve Supply of the Eye

The eye, like any other organ, requires a continuous supply of oxygen, nutrients, and innervation to function properly.

Blood Supply of the Eye:

The eye receives its blood supply through two main sources: the ophthalmic artery and the central retinal artery.

I-Ophthalmic Artery:

The ophthalmic artery is a branch of the internal carotid artery. It supplies blood to the structures within and around the eye, including the retina, choroid, and the anterior segment of the eye.

II-Central Retinal Artery:

The central retinal artery is a branch of the ophthalmic artery. It enters the eye through the optic nerve and supplies blood to the inner layers of the retina.

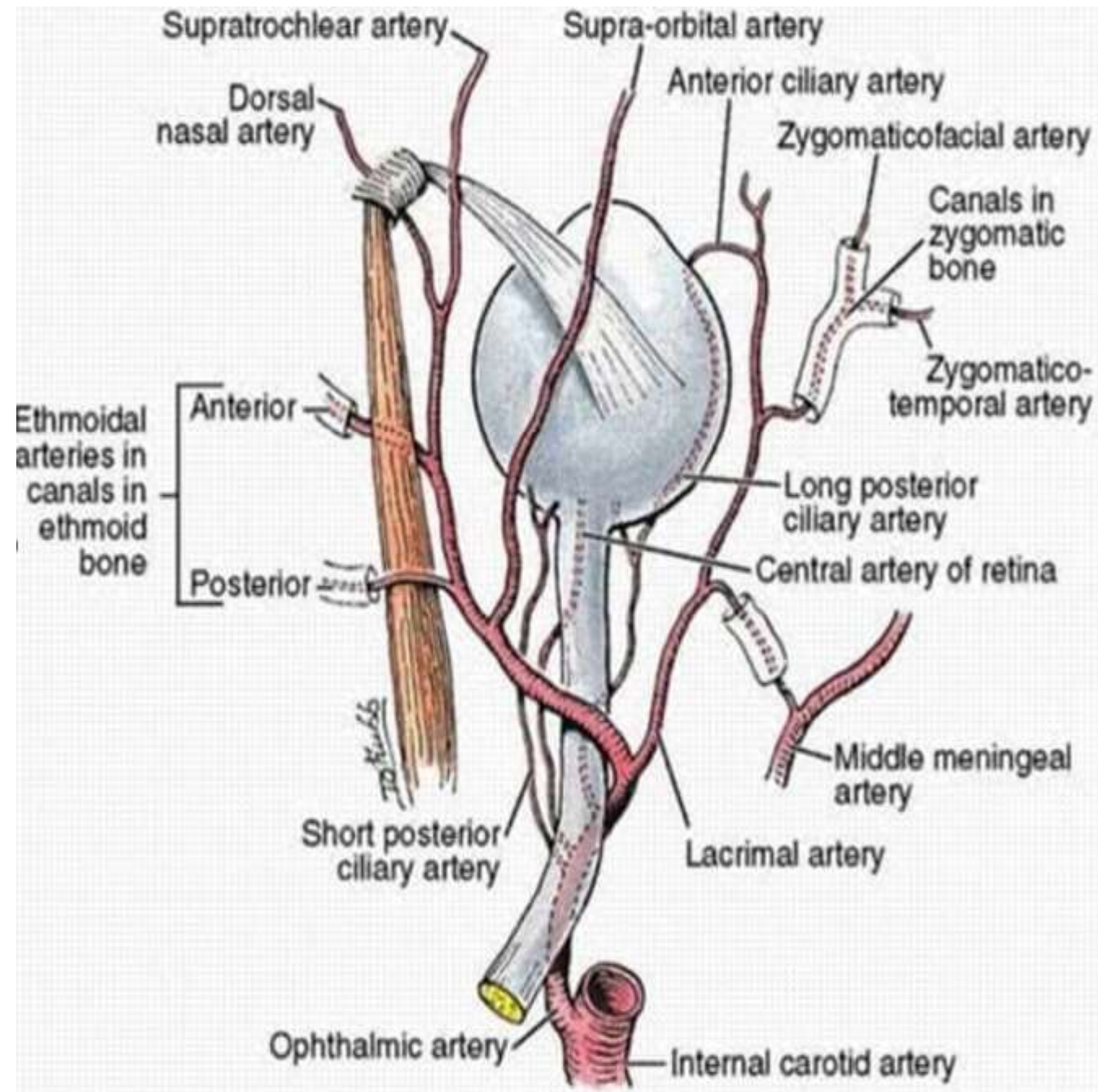
Arterial supply

- All structures are supplied by branches of Internal Carotid Artery
- Except **eyelids** and **conjunctiva** which receives blood supply from the branches of both internal and external carotid artery

Blood Supply of the Eye (contd.):

The **choroid**, a highly vascular layer beneath the retina, provides oxygen and nutrients to the outer layers of the retina.

The **retinal** vessels, derived from the central retinal artery, branch out and form a complex network of blood vessels within the retina.



Nerve Supply of the Eye:

The eye receives innervation from two main types of nerves: motor nerves and sensory nerves.

Motor Nerves of the Eye:

Motor nerves control the movement of the eye and are responsible for eye muscle function.

The oculomotor nerve (cranial nerve III),

trochlear nerve (cranial nerve IV),

and abducens nerve (cranial nerve VI) are the main motor nerves involved.

The oculomotor nerve supplies most of the extraocular muscles, including the muscles that control eye movements and the muscles responsible for pupil constriction.

•Sensory Nerves of the Eye:

- Sensory nerves transmit visual information from the retina to the brain for processing.
- The **optic nerve** (cranial nerve II) is the primary sensory nerve of the eye.

•Sensory Nerves of the Eye (contd.):

- The optic nerve carries visual signals from the retina to the brain, allowing us to perceive and interpret the visual world.

- Blood and Nerve Supply of the Eye:

- The blood supply provides oxygen and nutrients necessary for the eye's metabolic functions.

- The nerve supply controls eye movement and transmits visual information to the brain.

**THANKS SEE YOU IN NEXT
LECTURE**