

**DYE LASER TREATMENT IN
PROLIFERATIVE DIABETIC
RETINOPATHY AND MACULOPATHY**

Essay



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بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

"قَالُوا سُبْحَانَكَ لَا عِلْمَ لَنَا إِلَّا مَا عَلَّمْتَنَا
إِنَّكَ أَنْتَ الْعَلِيمُ الْحَكِيمُ"

صَدَقَ اللَّهُ الْعَظِيمُ

(سورة البقرة - الآية ٣٢)

Handwritten signature and notes in Arabic script.

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Anatomy of the Retina

The nervous coat or retina, is the internal layer of the Eyeball. It is a thin, transparent membrane having a purplish-red color in living subjects. Its thickness varies from 0.56 mm near the optic disc to 0.1 mm at the ora serrata. It is thinnest at the fovea centralis. The retina is continuous with the optic nerve posteriorly, and extends forwards to become the epithelium of the ciliary body and iris.

The outer surface of the retina is in contact with Bruch's membrane of the choroid; the inner surface is in contact with the vitreous body. The retina is firmly attached at the margins of the optic disc and at its anterior termination at the ora serrata. The retina extends more anteriorly on the Medial side so that the ora serrata lies closer to the limbus on that side (Fig.1).

An Approximate landmark on the outside of the eyeball is the point of insertion of the medial rectus muscle medially and the lateral rectus muscle laterally (Snell-Lemp, 1989).

The retina consists of an outer pigmented layer and an inner neuro-sensory layer, which are embryologically derived from the neuroectoderm. The outer layer is derived from the outer layer

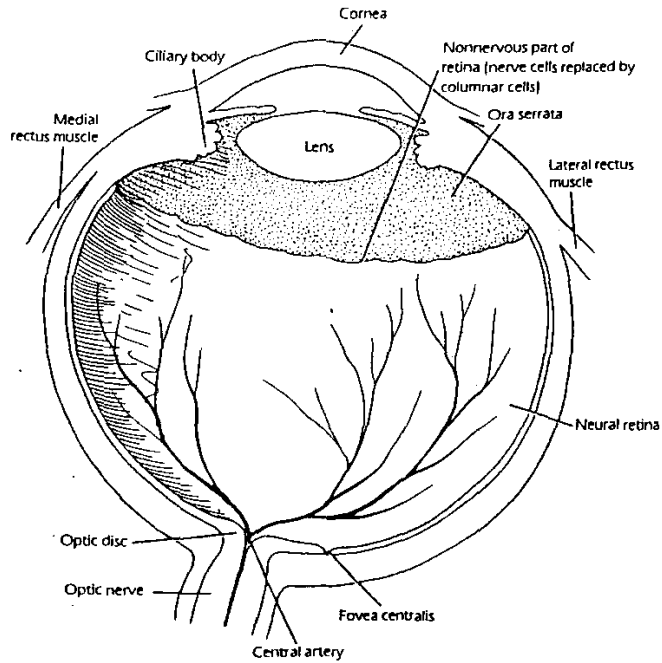


Fig. 1

Diagram of a horizontal section of the right eyeball at the level of the optic nerve. The vitreous body has been removed to reveal the extent of the neural retina.

(Snell-Lemp, 1989)

the optic cup; the inner layer from the inner layer of the optic cup. the posterior, receptive part of the retina extends forwards from optic nerve to a point just posterior to the ciliary body. here the nervous tissues of the retina end and its anterior edge forms the wavy ring, called the ora serrata (Fig. 1). the Anterior, non-receptive part of the retina at the ora serrata becomes continuous with the pigmented and non-pigmented columnar cell layers of the ciliary body and its processes. At the iris, both layers of cells continue on to its posterior surface and they both become pigmented (Snell-Lemp, 1989).

At the center of the posterior part of the retina is an oval, yellowish area, the macula lutea, which is the retinal area for the most distinct vision. it has a central depression, the fovea centralis (Fig.1).

The optic nerve leaves the retina about 3 mm to the medial side of the macula lutea at the optic disc (Fig.1).The optic disc slightly depressed at its center, where it is pierced by the central retinal artery and vein. at the optic disc, there is complete absence of rods and cones; thus, it is insensitive to light and is referred to as the blind spot. On ophthalmoscopic examination, the optic disc is seen to be pale pink, Much paler than the surrounding retina(Hamming and Apple D.,1980).