Fungal Endophthalmitis

Diagnosis and Treatment

Essay

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Master Degree of Ophthalmology

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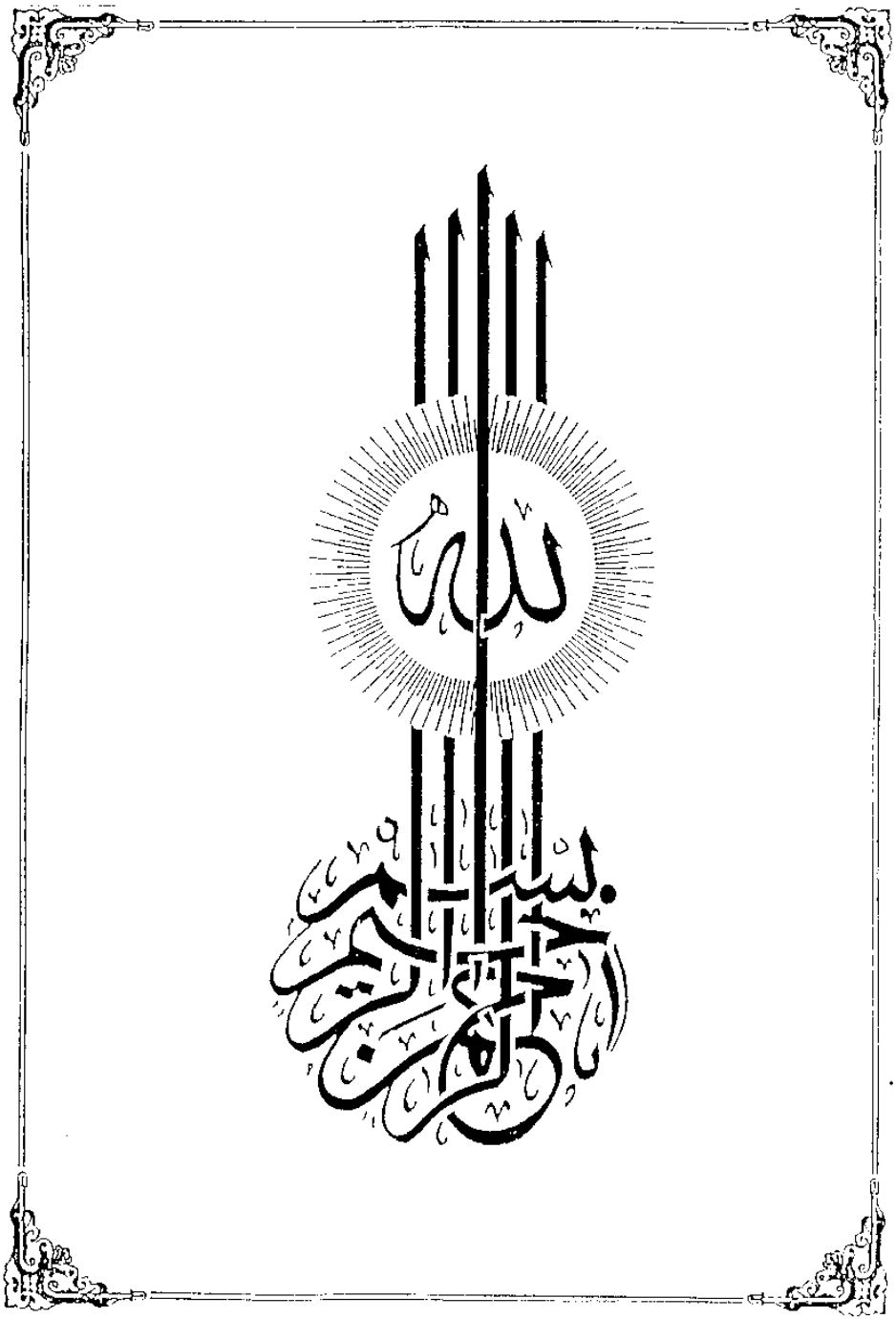

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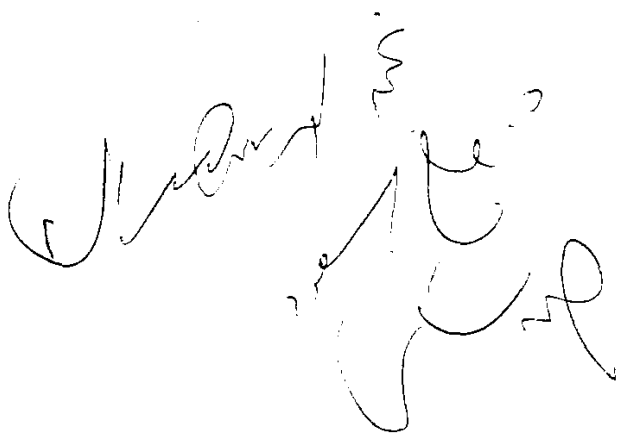
Introduction

Fungal Endophthalmitis is sever form of intraocular inflammation involving the ocular cavities and their adjacent structure without extension of the inflammatory process beyond the sclera.
Increase in frquency of endogenous fungal endophthalmitis is due to :

1. Wide spread use of antibiotics
2. Intravenous hyperalimentation
3. Immunsuppressive therapy
4. Prolonged sruvival of deblilitated patients

It is important to study the :
1. Diagnosis
2. Treatment

Of fungal endophthalmitis



CONTENT

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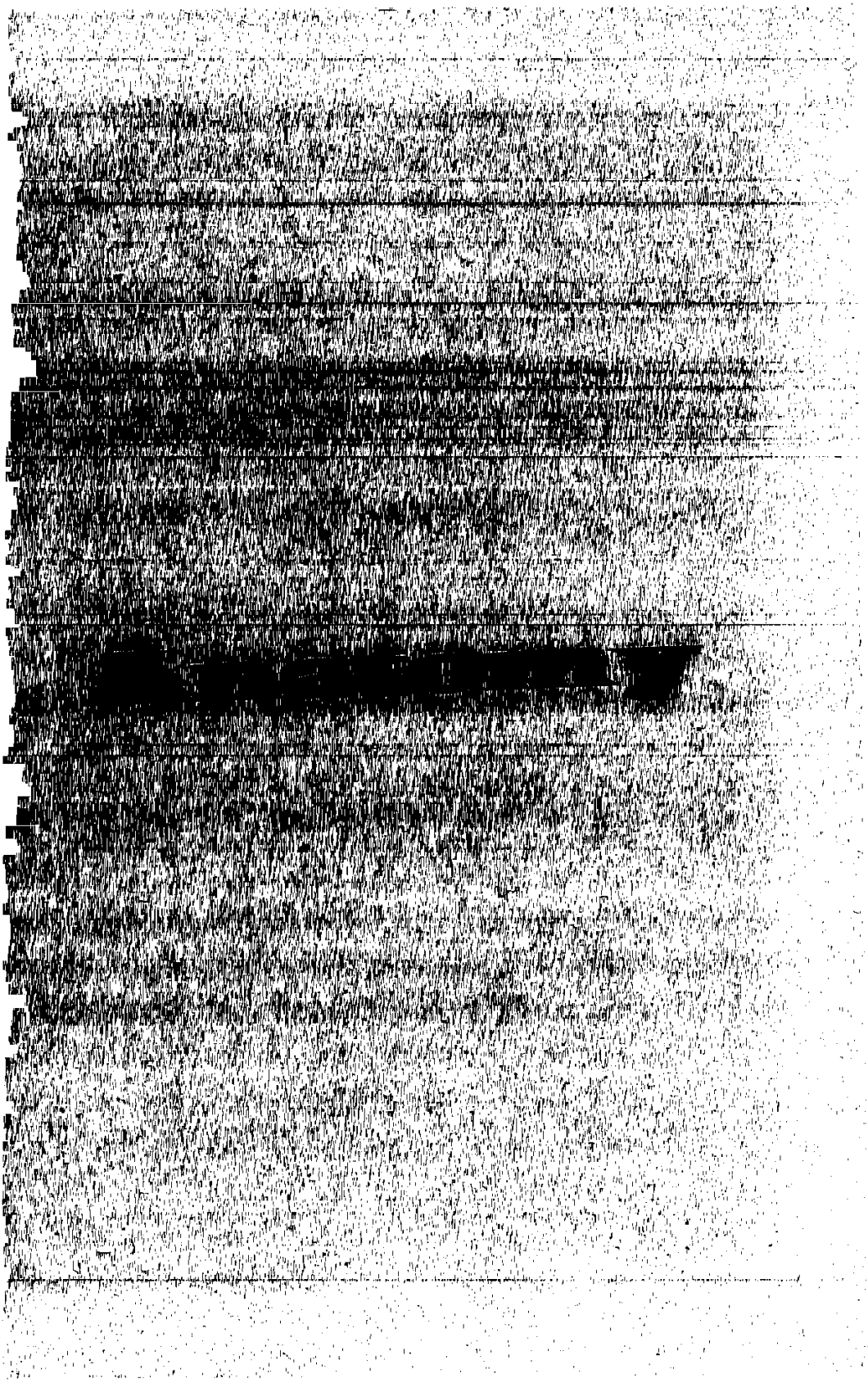

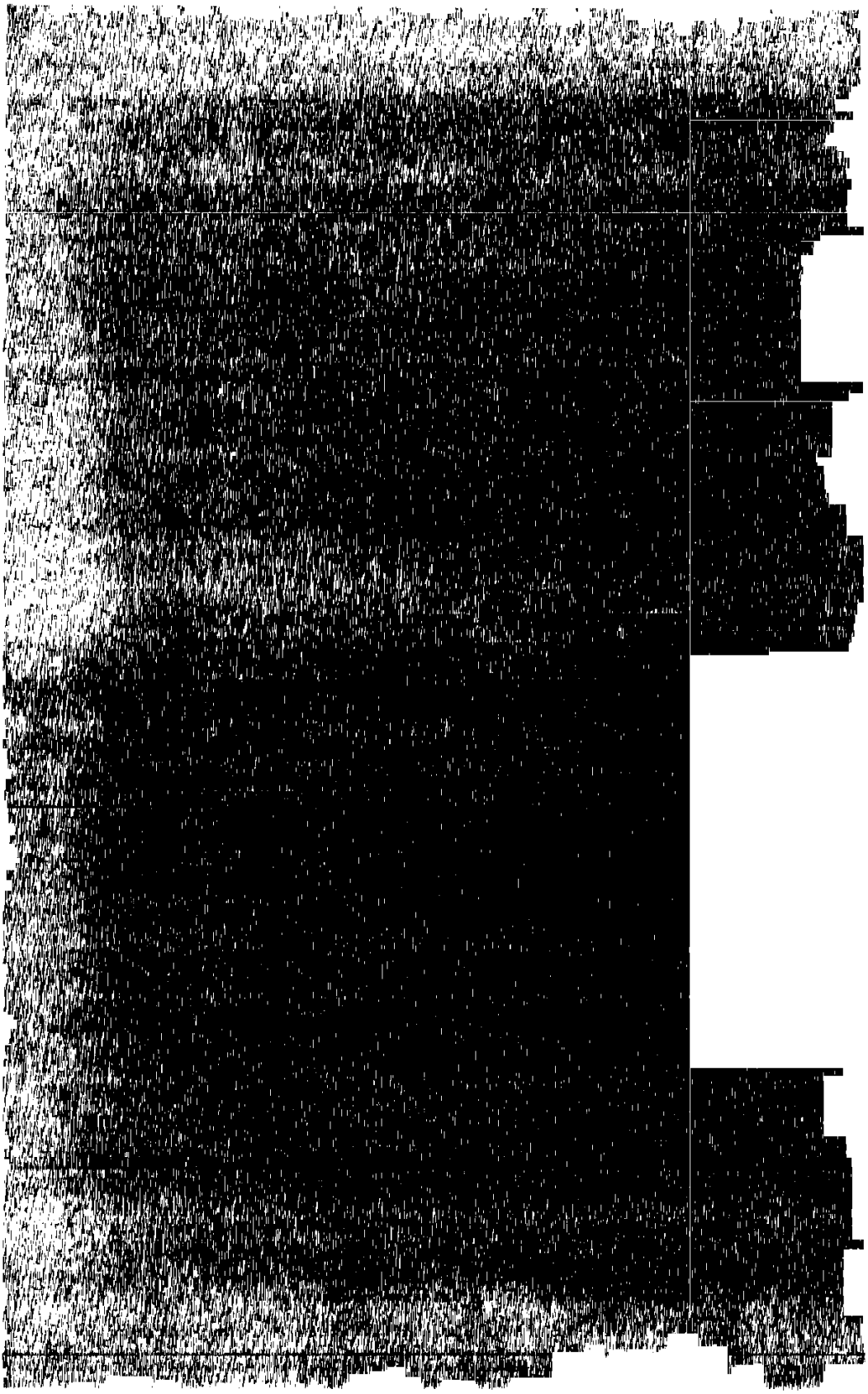

ANATOMY OF THE RETINA

The retina is the photosensitive membrane that extends from the optic disc to the ora serrata. Beyond this zone it extends as a single layer of non - pigmented epithelium which covers the pars plana ciliaris.
The attached retina is transparent except for its blood vessels. When detached, the retina appears as a translucent grey veil with darker than normal blood vessels. A transparent detached retina is the result of atrophy or stretching. The retina and its blood vessels are much thicker around the posterior pole than peripherally except in the fovea. When the macula is attached it is darker red than its surroundings because the inner macular layers contain yellow pigment. Detached or edematous macula is yellow.

The vitreous base is the area of firmest attachment between the vitreous gel and the peripheral retina and posterior part of the pars plana. It is 2.6 m.m. wide and straddles the ora serrata the anterior margin of the vitreous base is 1 m.m. to 2 m.m. anterior to the ora serrata and the posterior margin is 1 m.m. to 4 m.m. posterior to the ora serrata.

The posterior border of the retinochoroidal attachment coincides everywhere with the posterior limit of the vitreoretinal symphysis. The anterior border coincides almost completely with that of the symphysis on th temporal side, on the nasal side it reaches the anterior limit of the symphysis at the anterior tips of the ora serrata teeth only. (Schepens, C.L. 1983).

Traction on the retina may detach it from its choroidal attachments , thus extending a retinal detachment under the non - pigmented epithelium as far as the posterior border of the ciliary processes. Extension of the retinal detachment under the ciliary epithelium occurs more readily nasally than temporally because the retinochoroidal attachment is narrower on the nasal side.

Other attachments of the retina to the vitreous can occur along retinal vessels, at the macula, at the edge of lattice degeneration of the retina, and at intermittent points marked by glial tufts of the retina.

The posterioor pole is located in the visual axis and measures about 6 m.m in diameter. The clinical macula, or the anatomic fovea, is the central area within this zone where the major retinal vessels terminate

and measures about 1.5 m.m in diameter. The macula has a darker appearance than the surrounding fundus because the cells of the retinal pigment epithelium are higher and more pigmented here than elsewhere it has a yellowish colour due to xanthophyll pigment located in the inner retinal layers. The clinical macula is centered 3.4 m.m. temporal to the margin of the optic nerve head.

In the center of the macula is the clinical fovea (anatomic foveola). It is an area 0.35 m.m. in diameter with a thickness of only 0.13 m.m. The equatorial region of the retina lies approximately 15 m.m posterior to the corneoscleral junction in an emmetrope . The retina terminate anteriorly in an irregular, wavy edge. The ora serrata. The distance from the equator to the ora serrata is estimated clinically at 3 disc diameters.

Layers of the Retina :

Based on light microscopic findings, the whole retina was said to be composed of ten layers, these are from outside inwards as follows :

1- The pigment epithelium.
2- The rods and cones (photoreceptors).
3- The extermal limiting membrane.
4- The outer nuclear layer.
5- The outer plexiform layer.
6- The inner nuclear layer.
7- The inner plexiform layer.
8- The ganglion layer.
9- The nerve fibre layer.
10- The internal limiting membrane.

Blood Supply of the Retina :

The outer plexiform layer of the sensory retina divides the retina into two halves; the inner vitreal half receives its blood suppy from the central retinal artery, the outer half contains no blood vessels and is supplied by the choroid capillaries derived from the ciliary vasculature. It follows, therefore, that in simple retinal detachment outer retina degeneration occurs, caused by the separation of the neural retina from the underlying choroidal vascular supply.