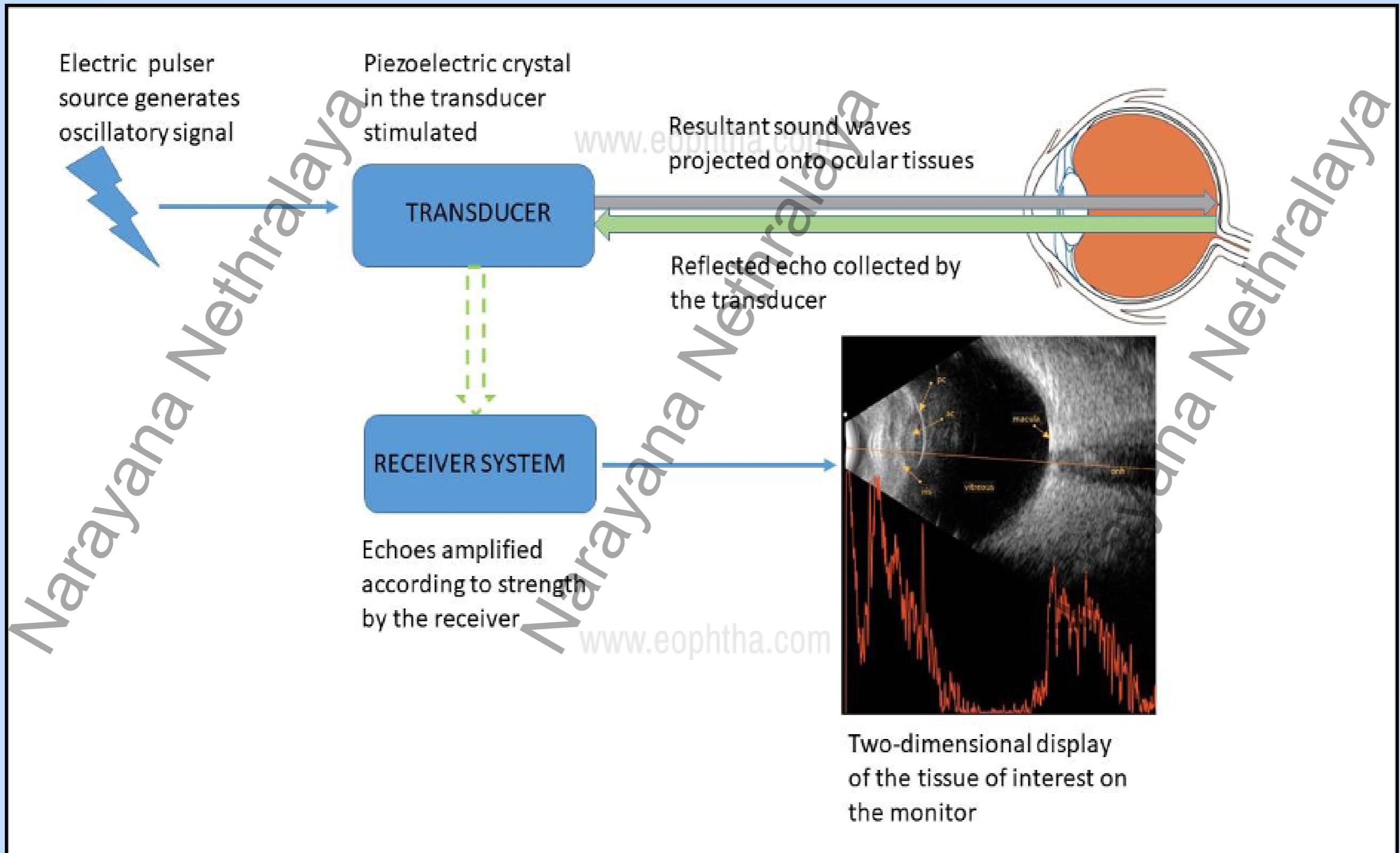


ULTRASONOGRAPHY(B-SCAN)



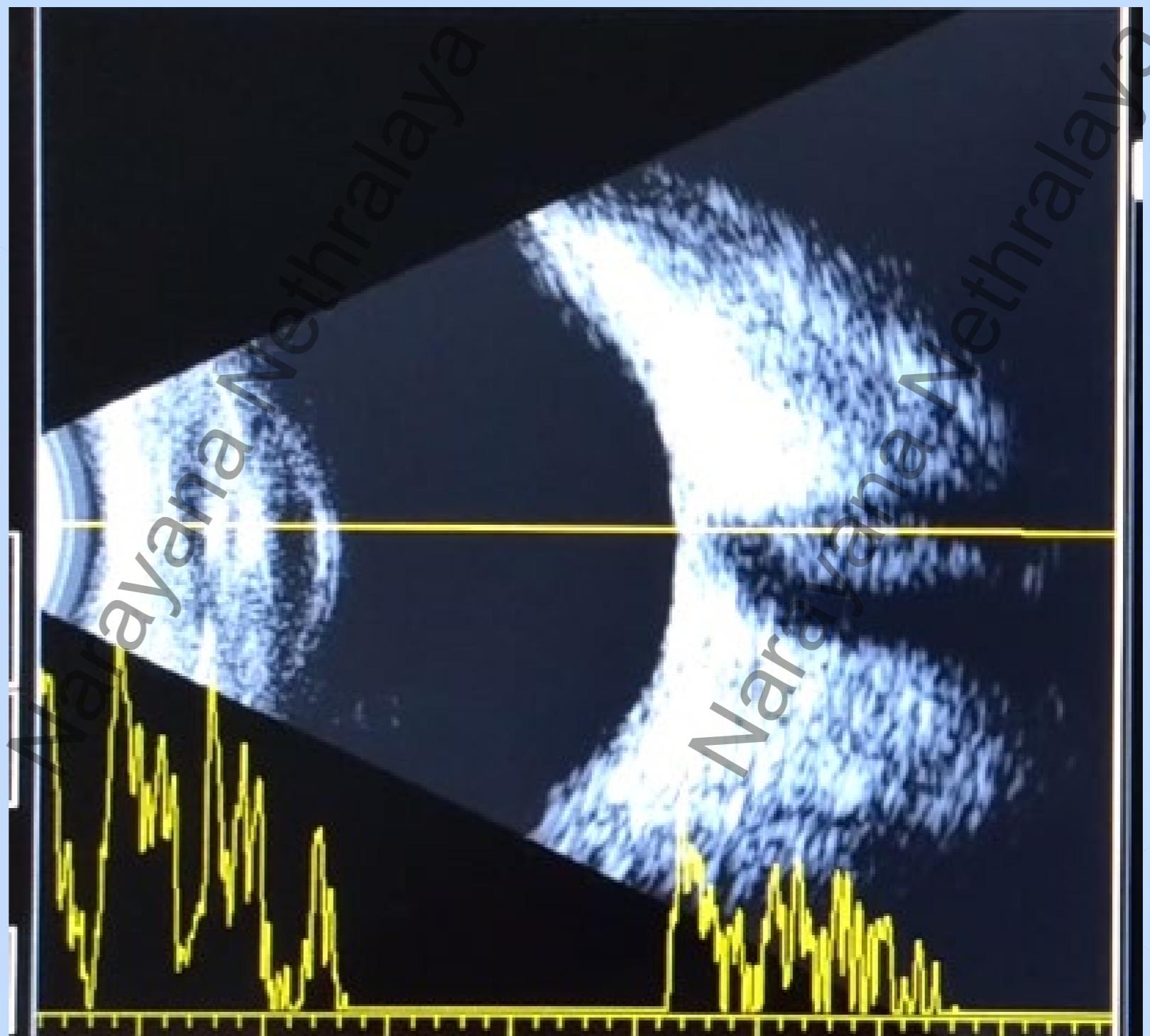
Principles of ophthalmic ultrasound



Probe

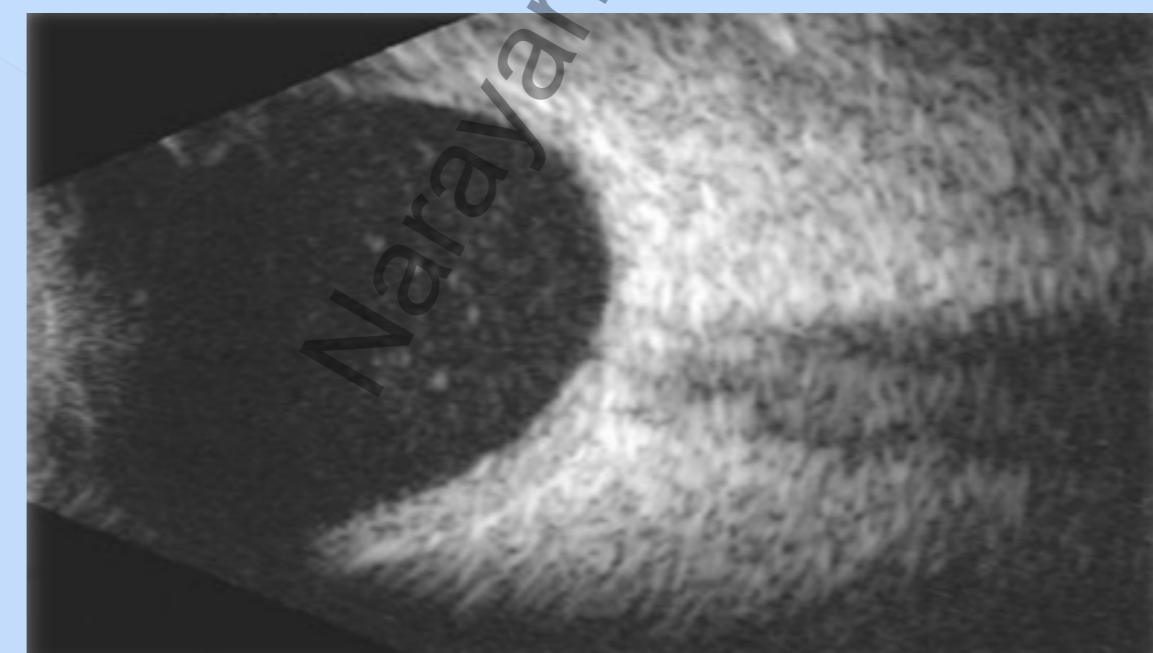
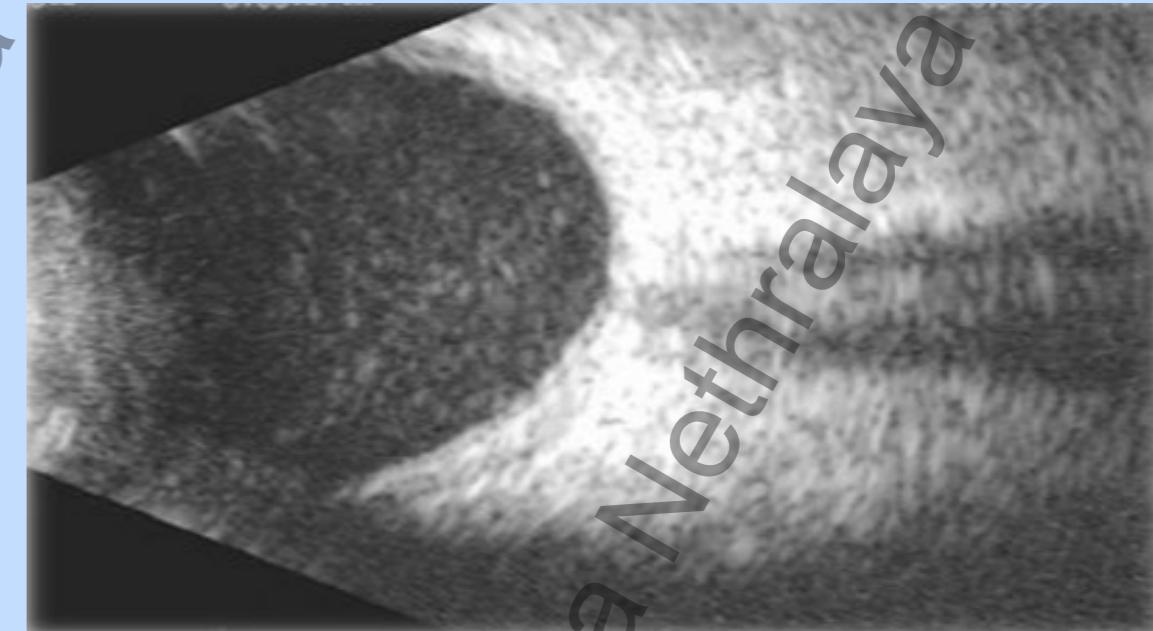
- Emit focused sound beam at frequency 10mhz
- Mark on the Bscan probe indicates beam orientation-area towards which mark is directed appears at the top of the echogram on display screen





Gain

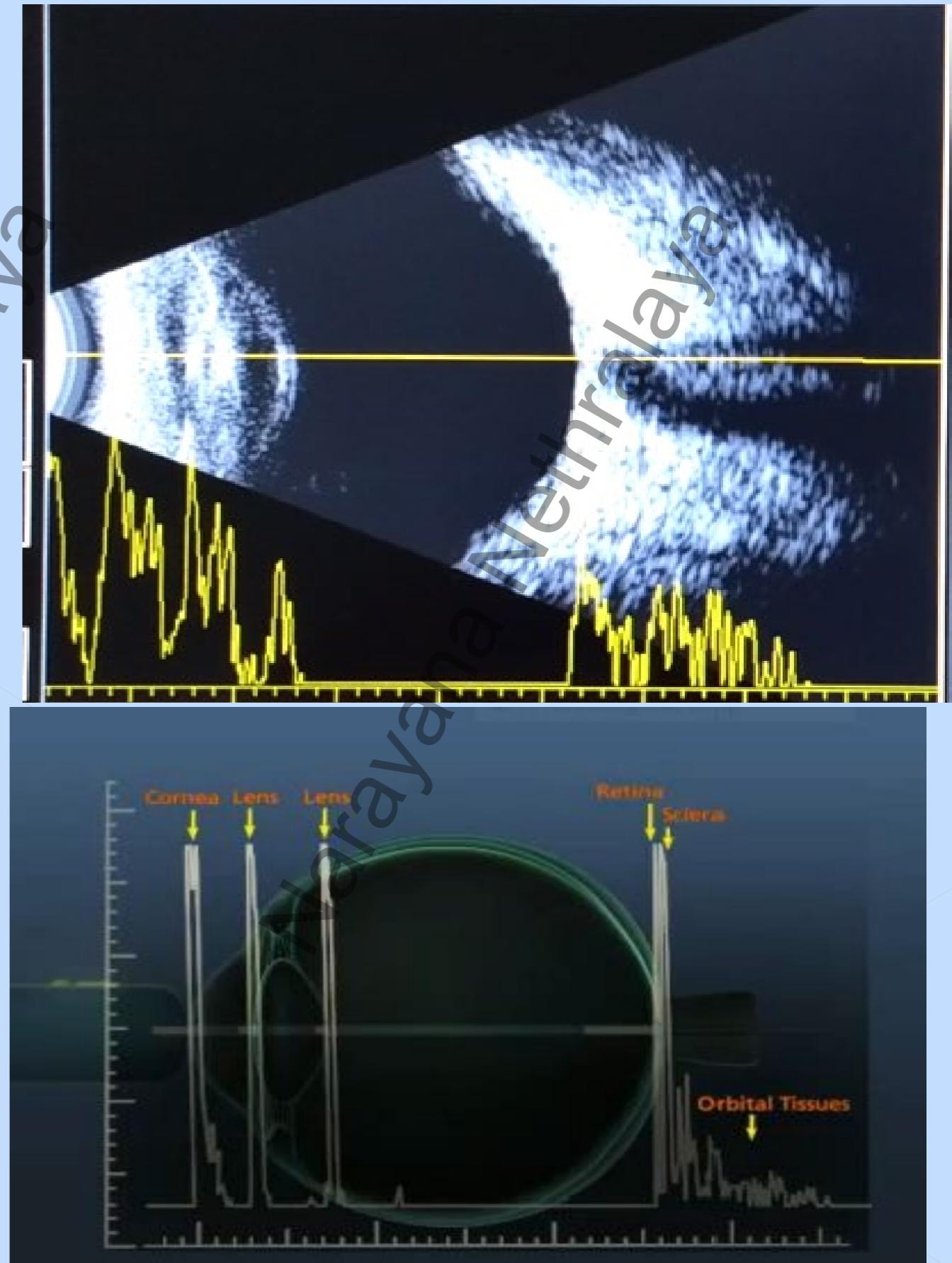
- Measured in decibels
- Higher gain – Display weaker echos like vitreous opacities
- Lower gain – Stronger echoes (retina and sclera) Better resolution



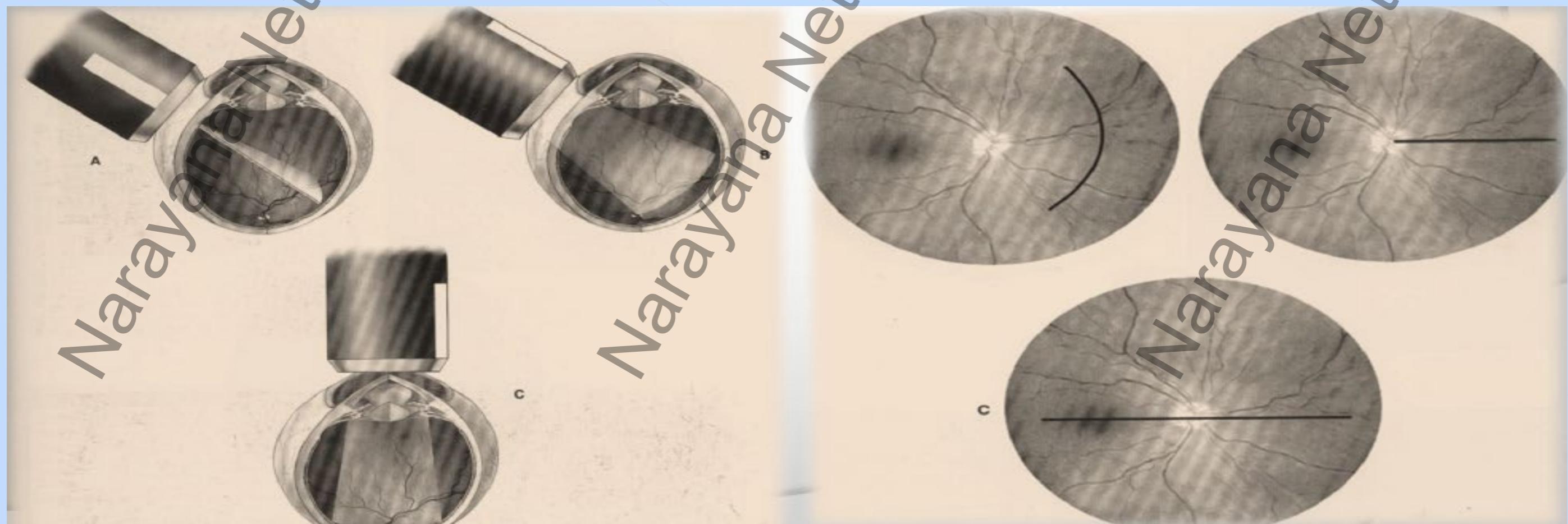
A scan (amplitude)

- Single dimensional display of spikes through the eye.
- The spikes on A scan represent amplitude / reflectivity of an echo

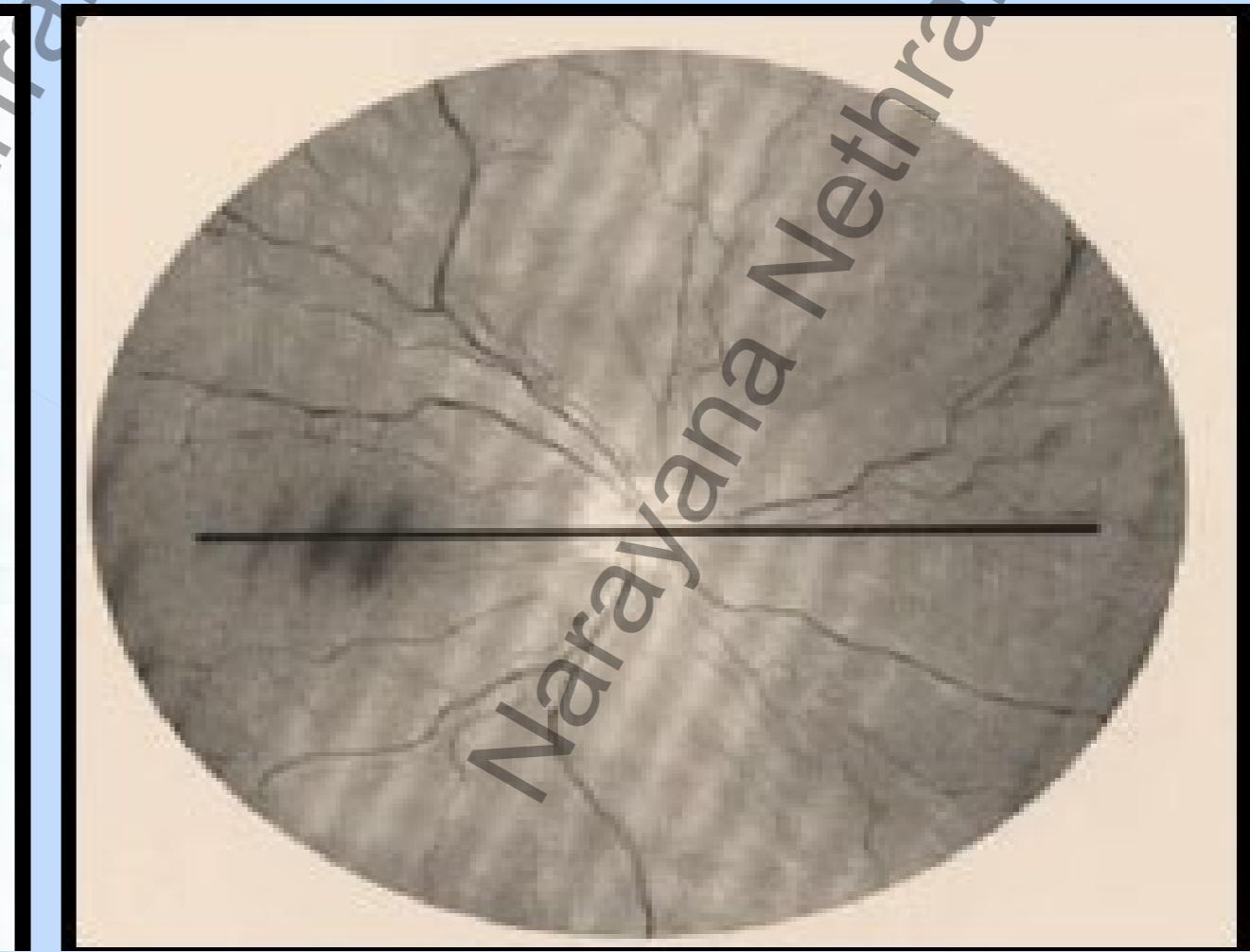
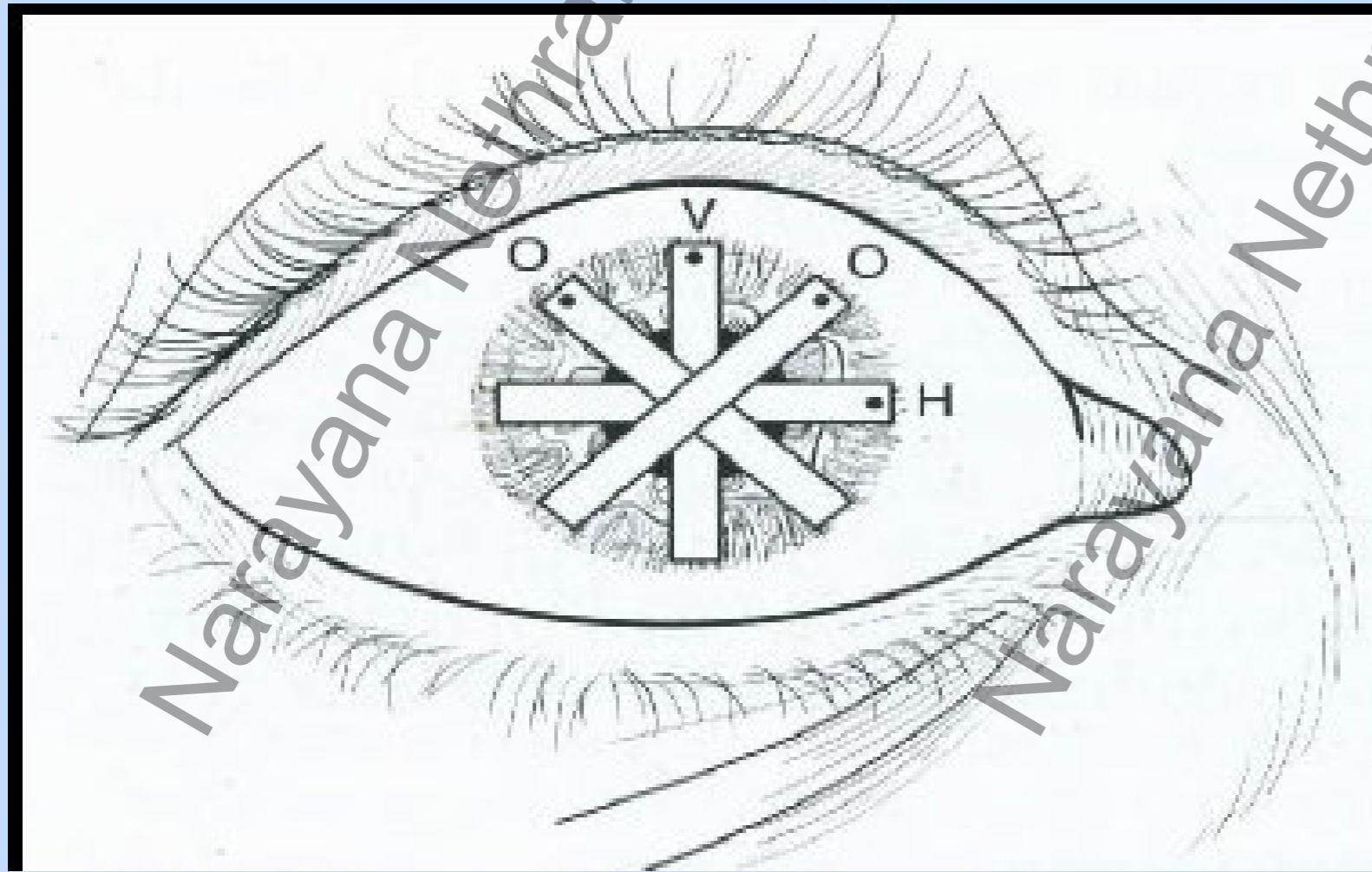
A-Scan



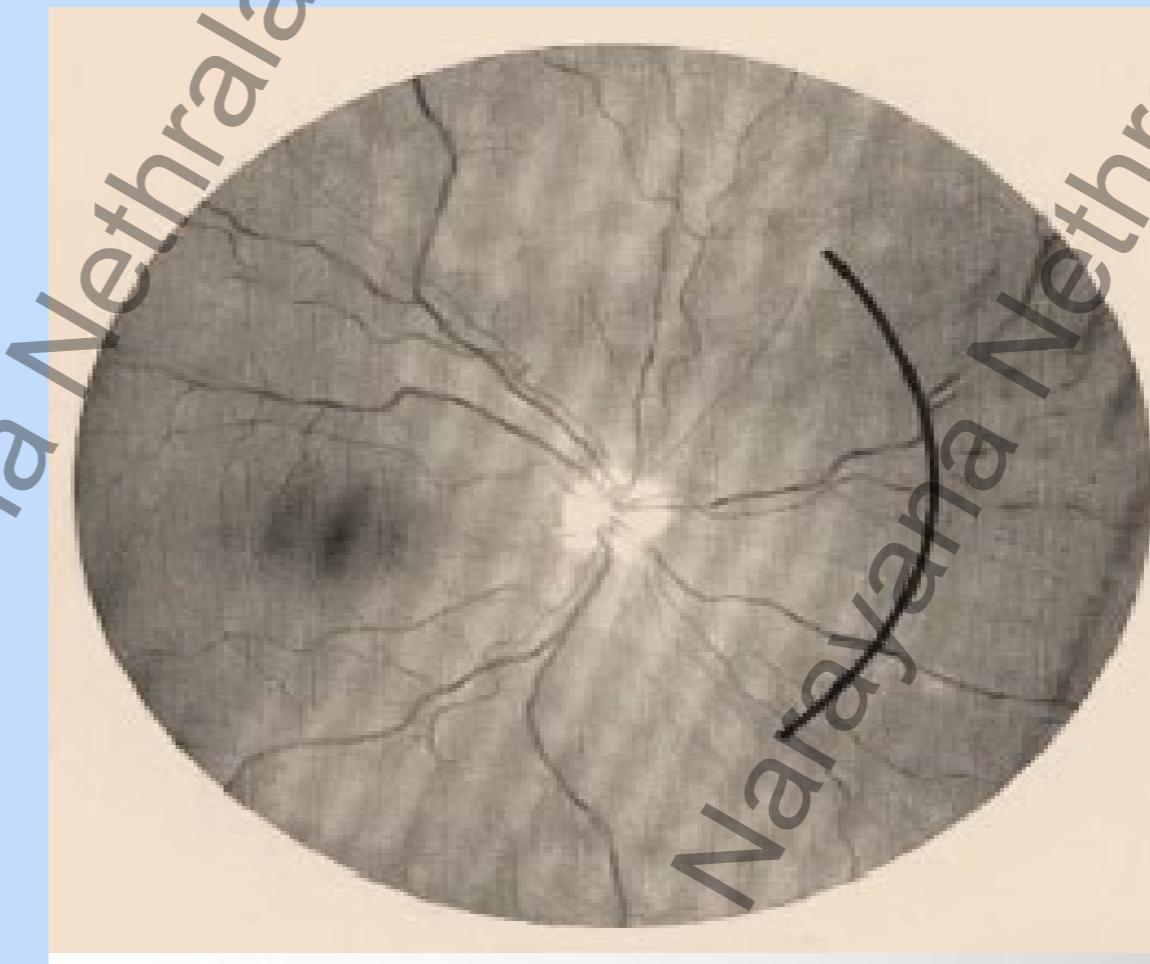
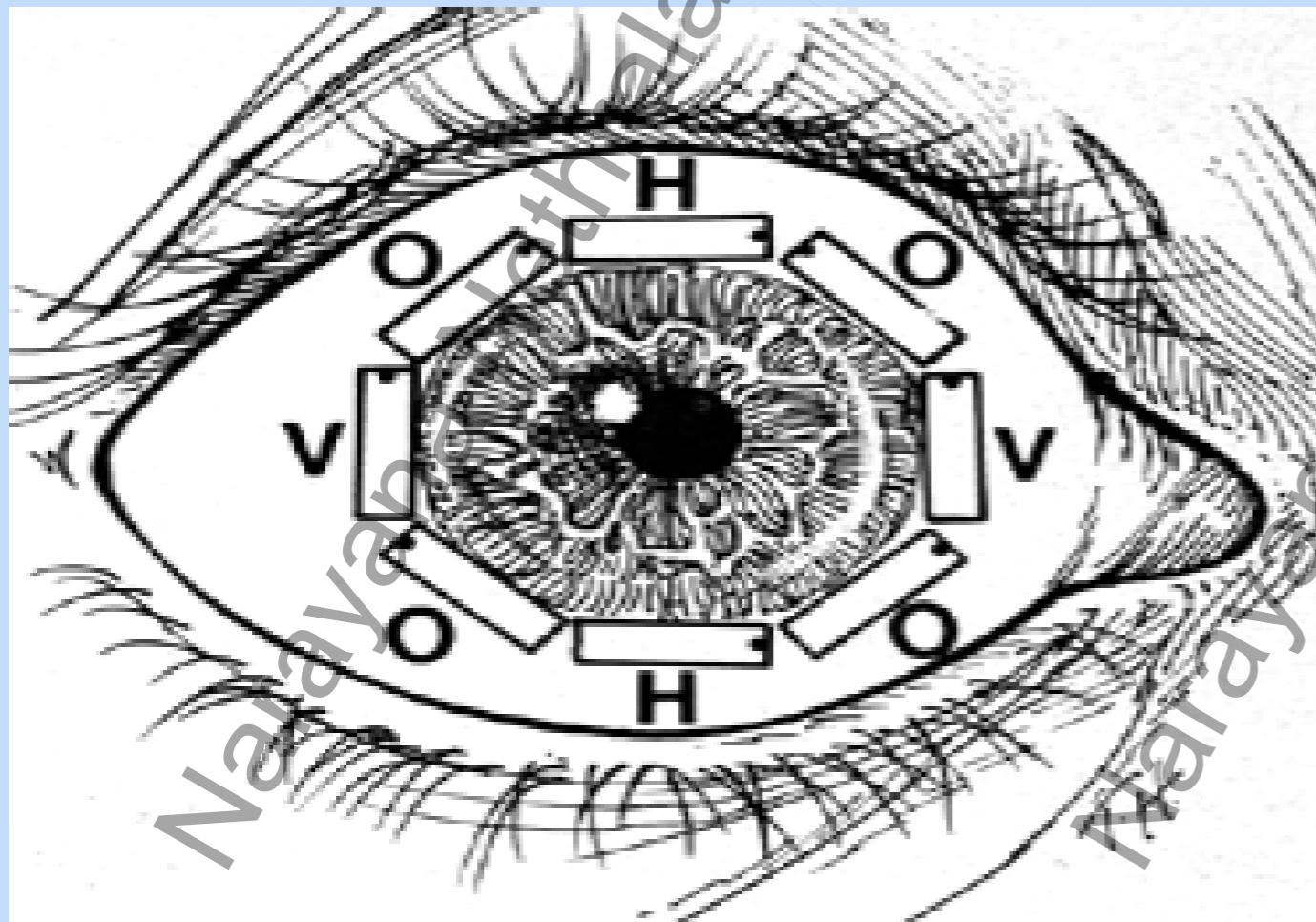
- Transverse scan
- Longitudinal scan
- Axial scan



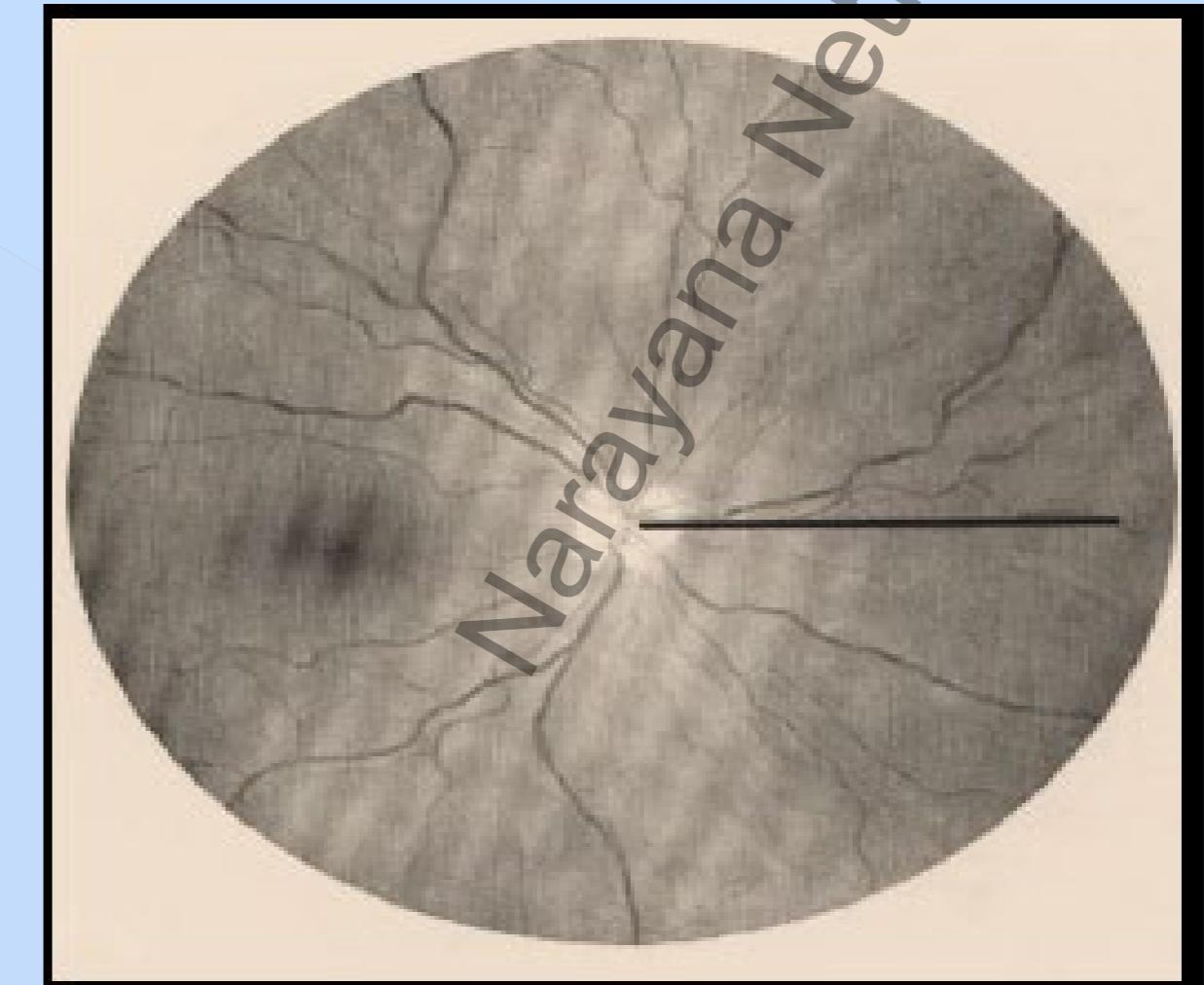
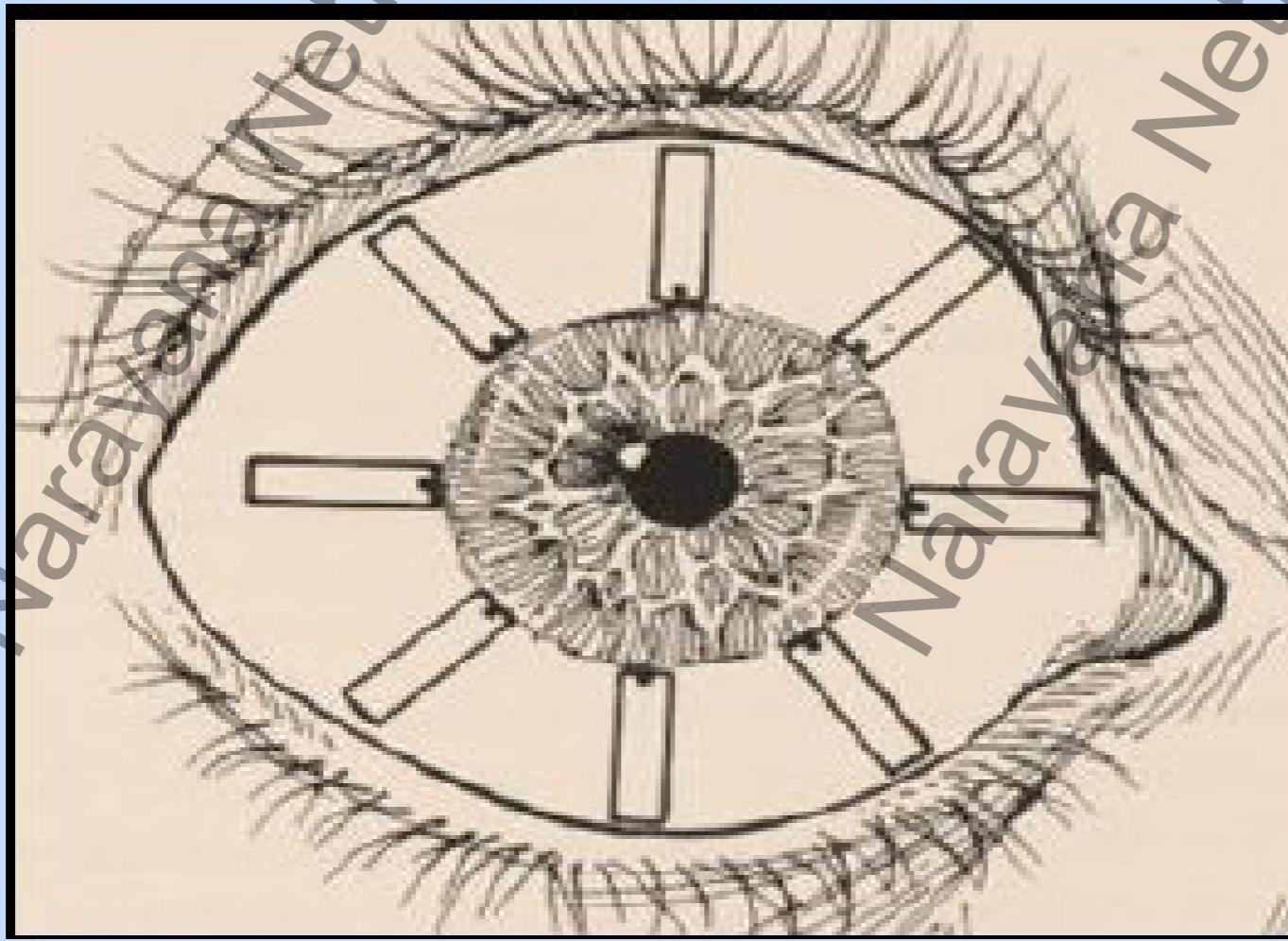
Axial scan



Transverse scan



Longitudinal scan



Why we need B-scan..????

- Evaluation of intraocular details
- Identification, localization and measurement of foreign bodies
- Assessment of damage in trauma cases

Indications:

- Anterior segment:
 - Opaque ocular media (i.e. corneal opacities)
 - Pupillary membrane
 - Dislocation / Subluxation lens
 - Cataract / after cataract
 - Posterior capsular tear

Posterior segment:

Opaque ocular media

Vitreous haemorrhage

Vitreous exudation

Retinal detachment (type / extent)

Posterior vitreous detachment (extent)

Intraocular foreign body (size/ site/ type)

Clear ocular media

Tumour (size/ site/ post treatment follow up)

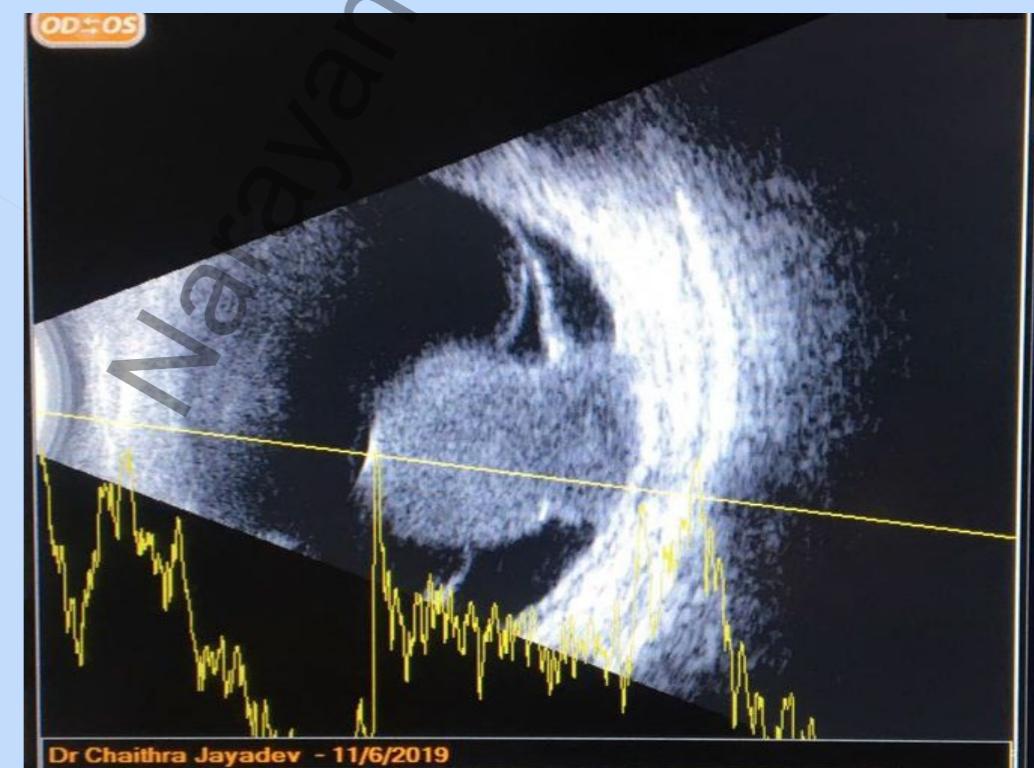
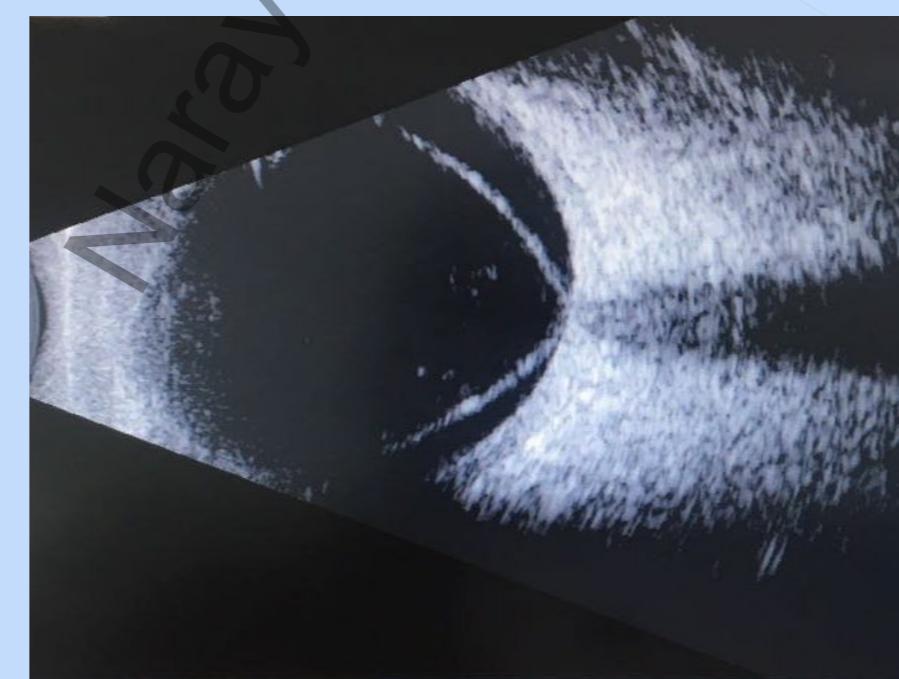
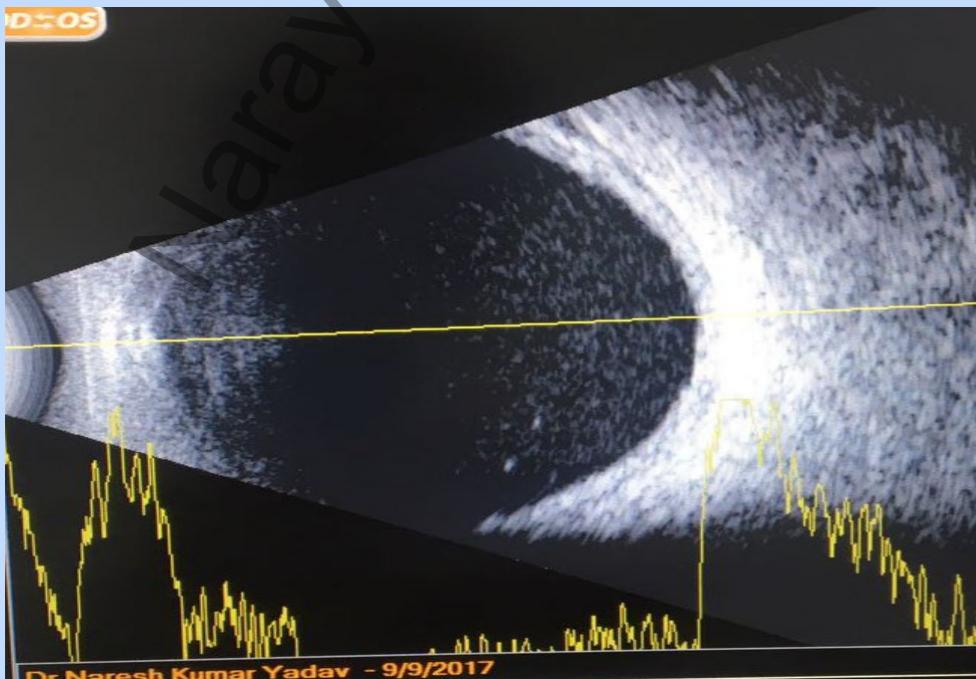
Retinal detachment (solid / exudative)

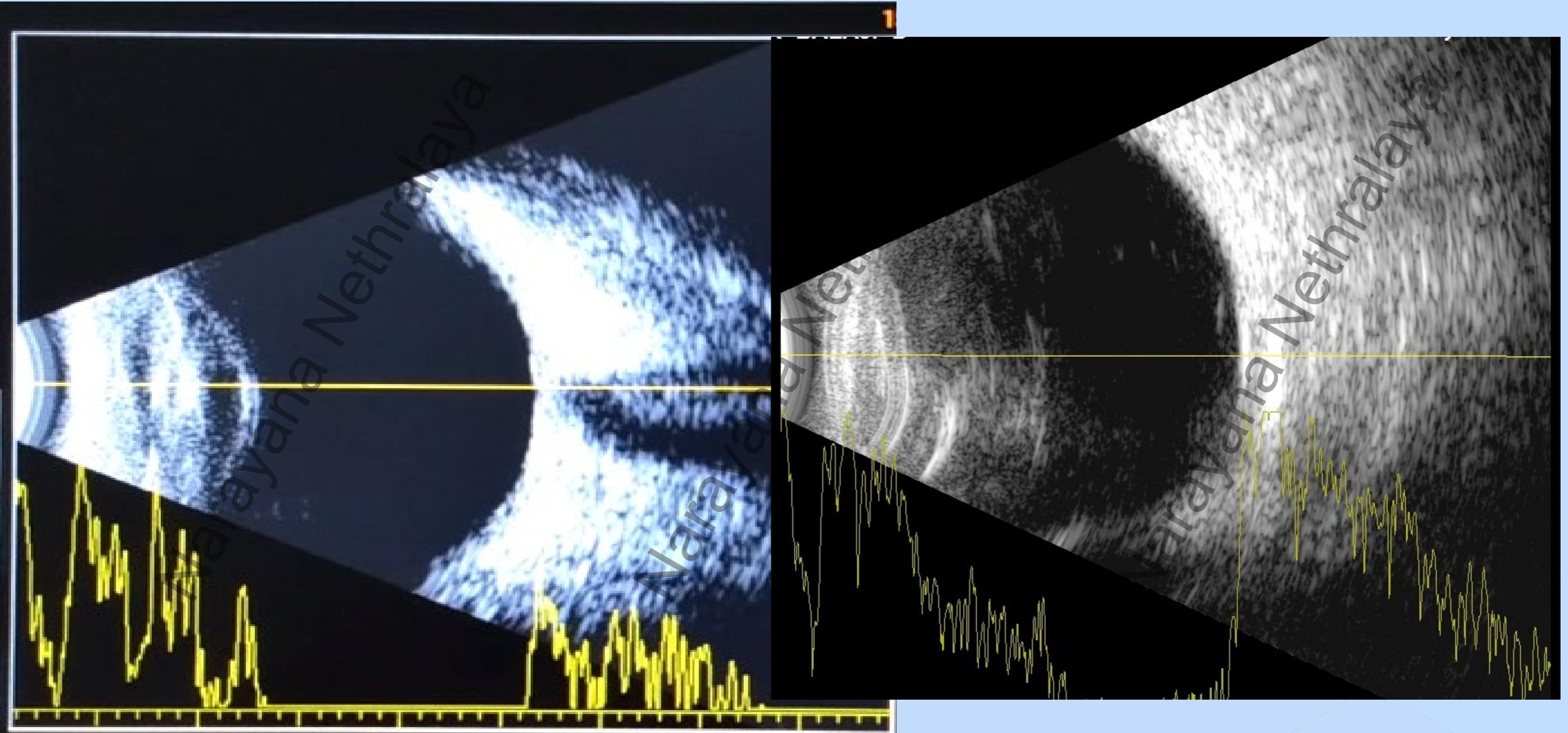
Optic disc anomalies

ocular trauma

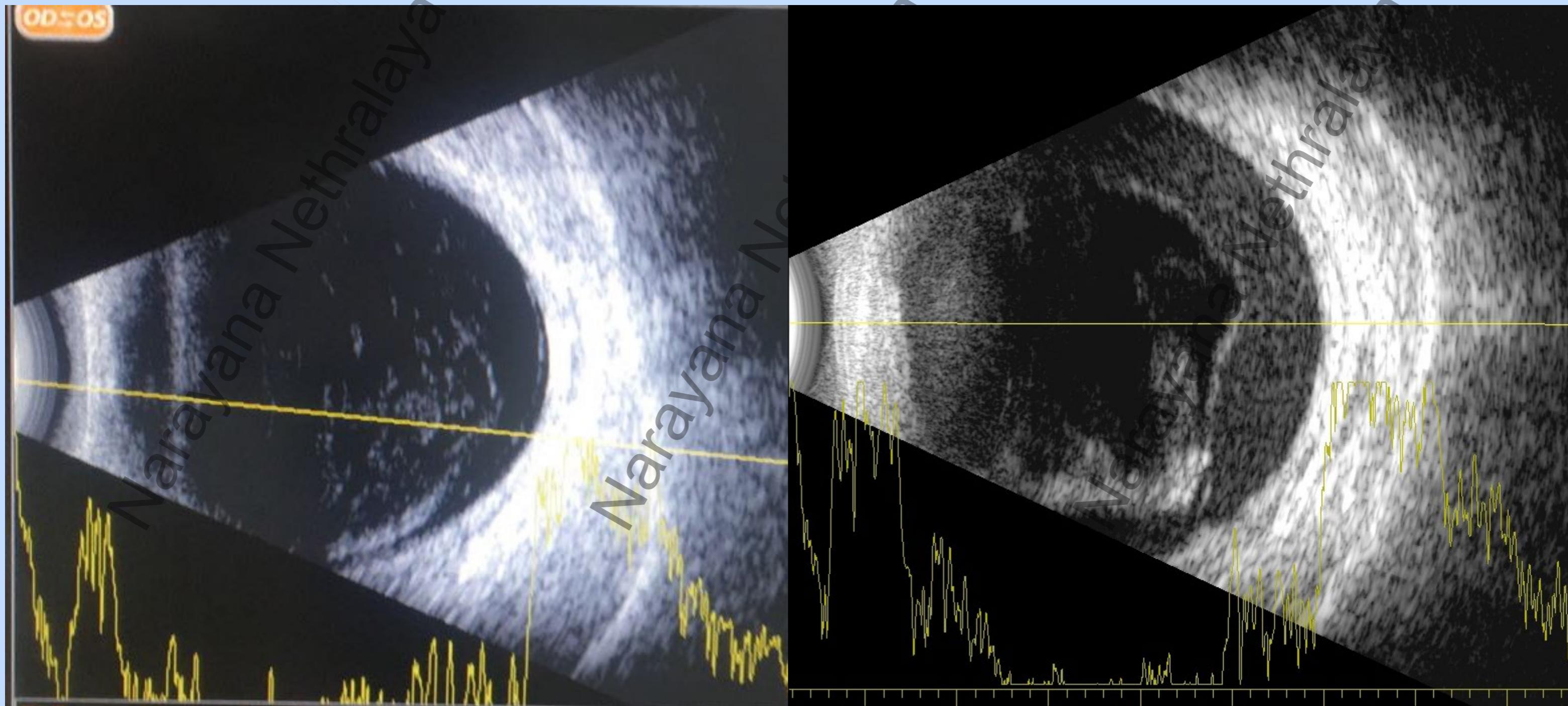
Echo texture of Lesion

- Dot like lesions – vitreous floaters, vitreous haemorrhage, vitreous exudates.
- Membranous lesions – vitreous membranes, PVD, RD
- Mass lesions – choroidal or retinal tumors Echotexture of Lesion

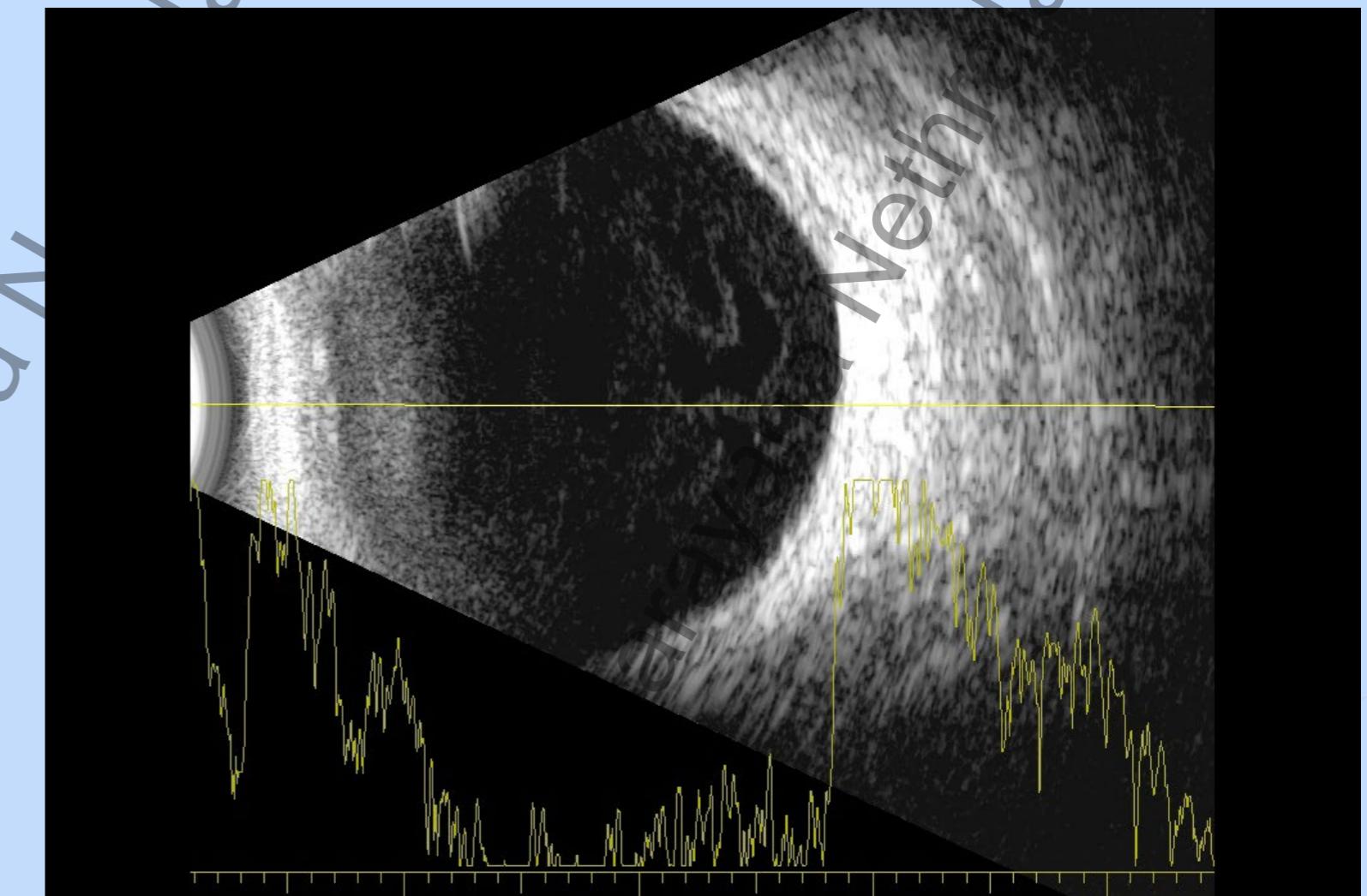
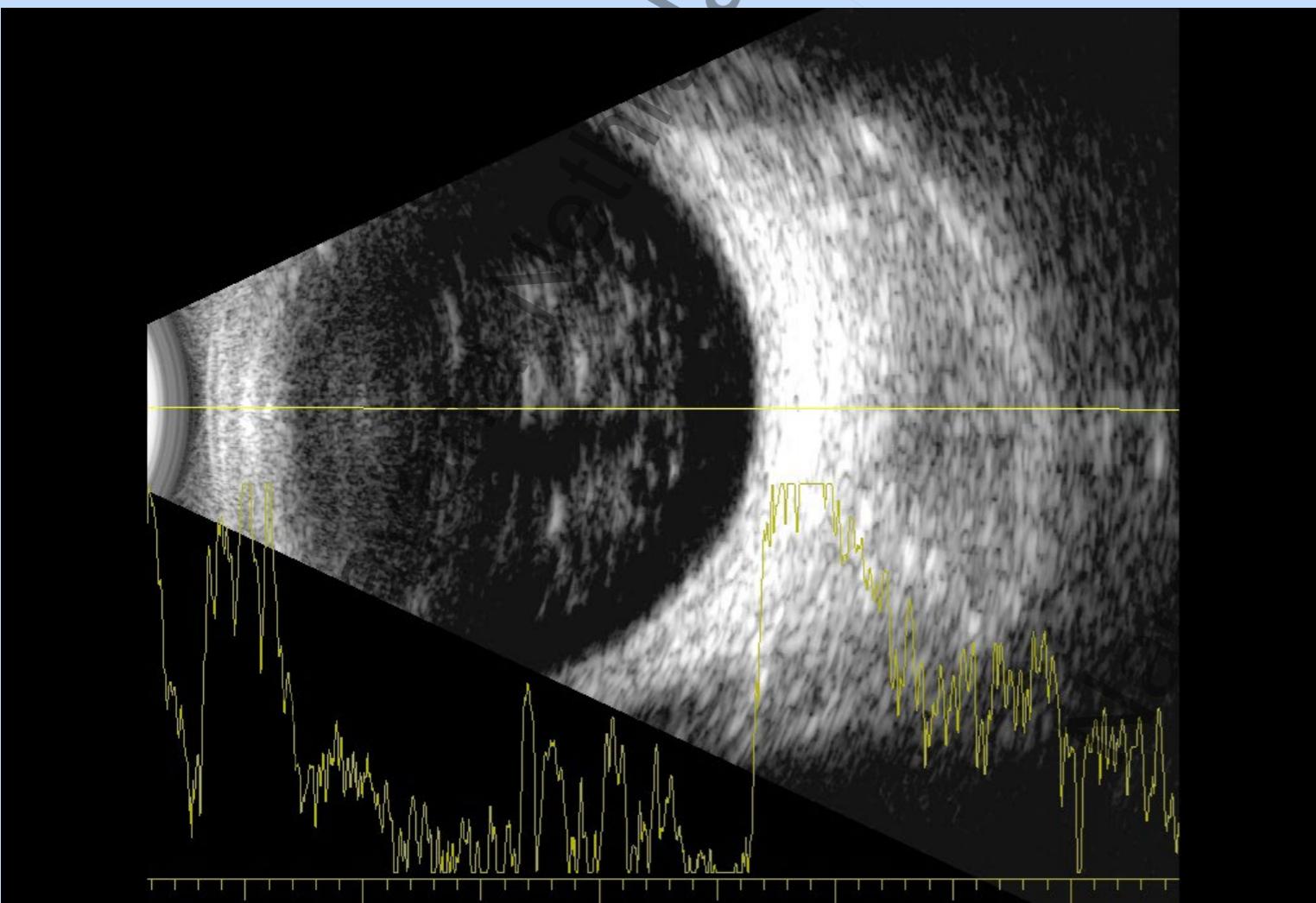




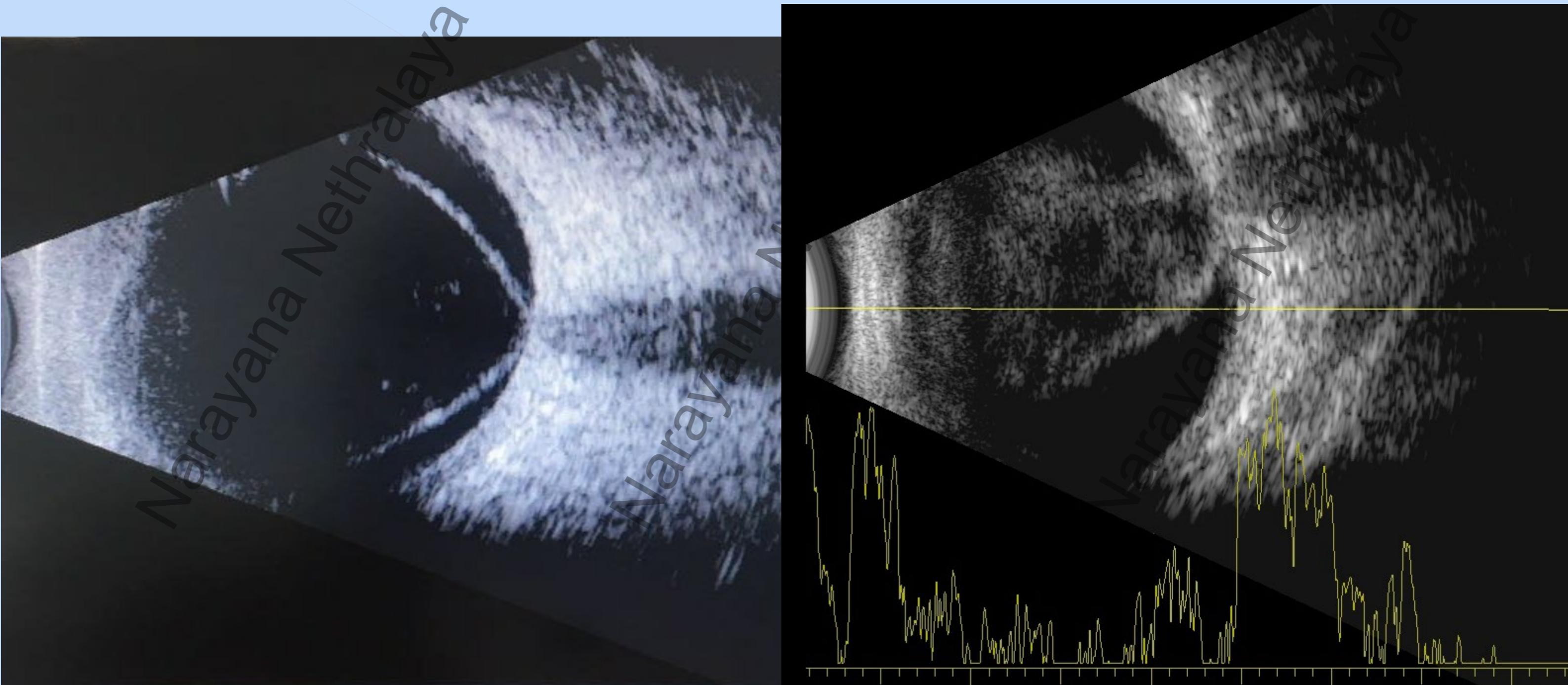
Vitreous haemorrhage



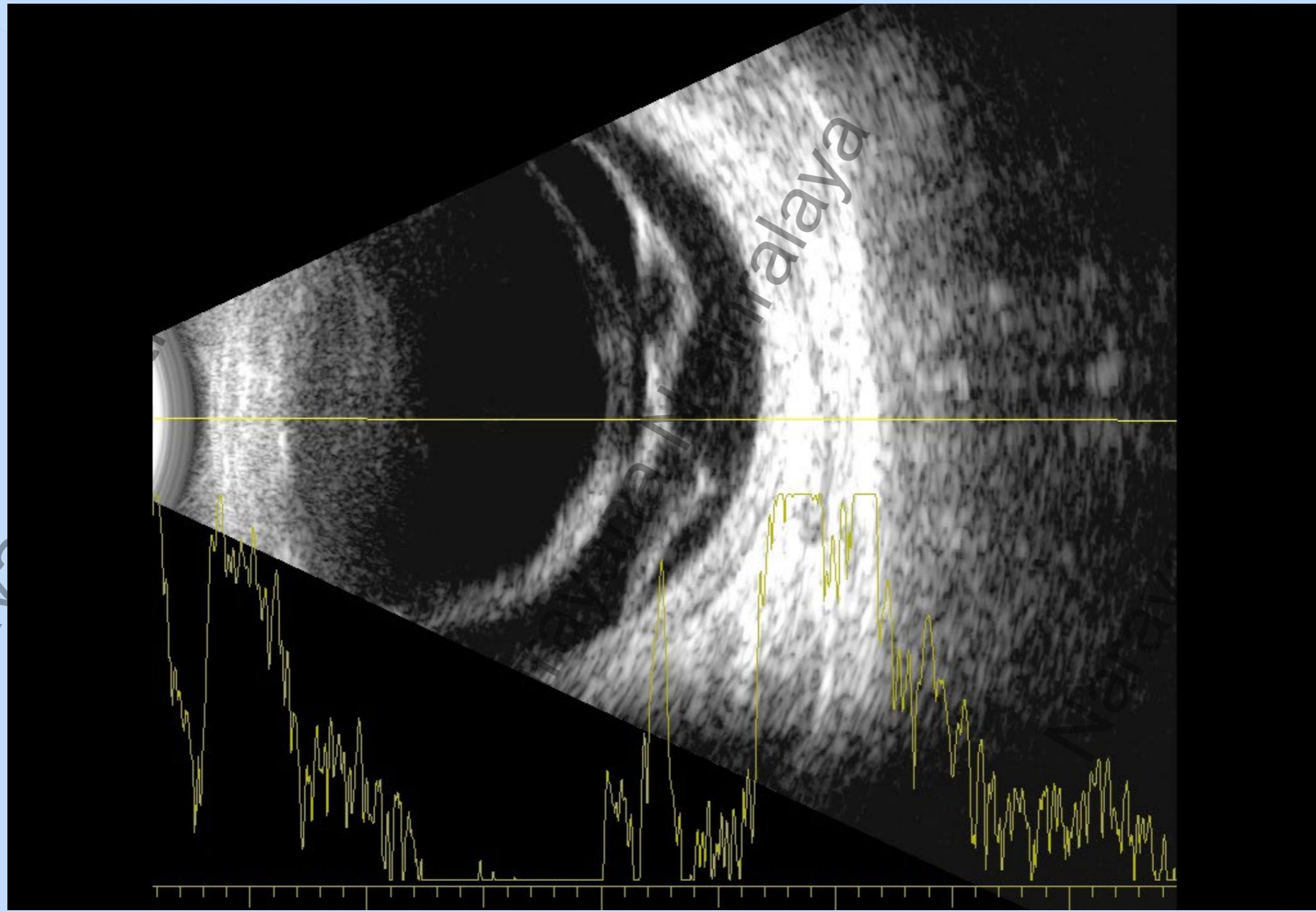
Asteroid hyalosis and vitritis



RETINAL DETACHMENT

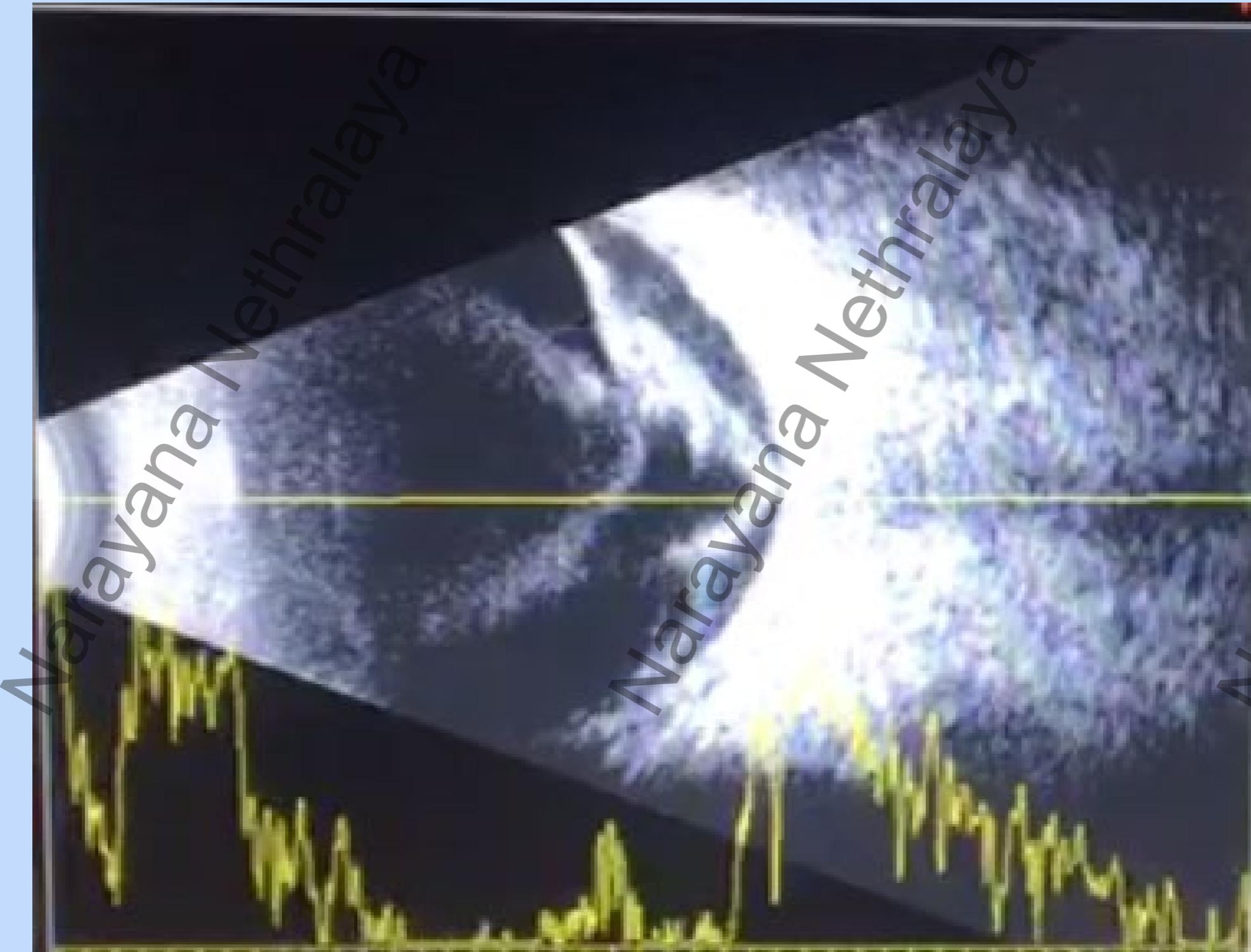


Naraya



Naraya

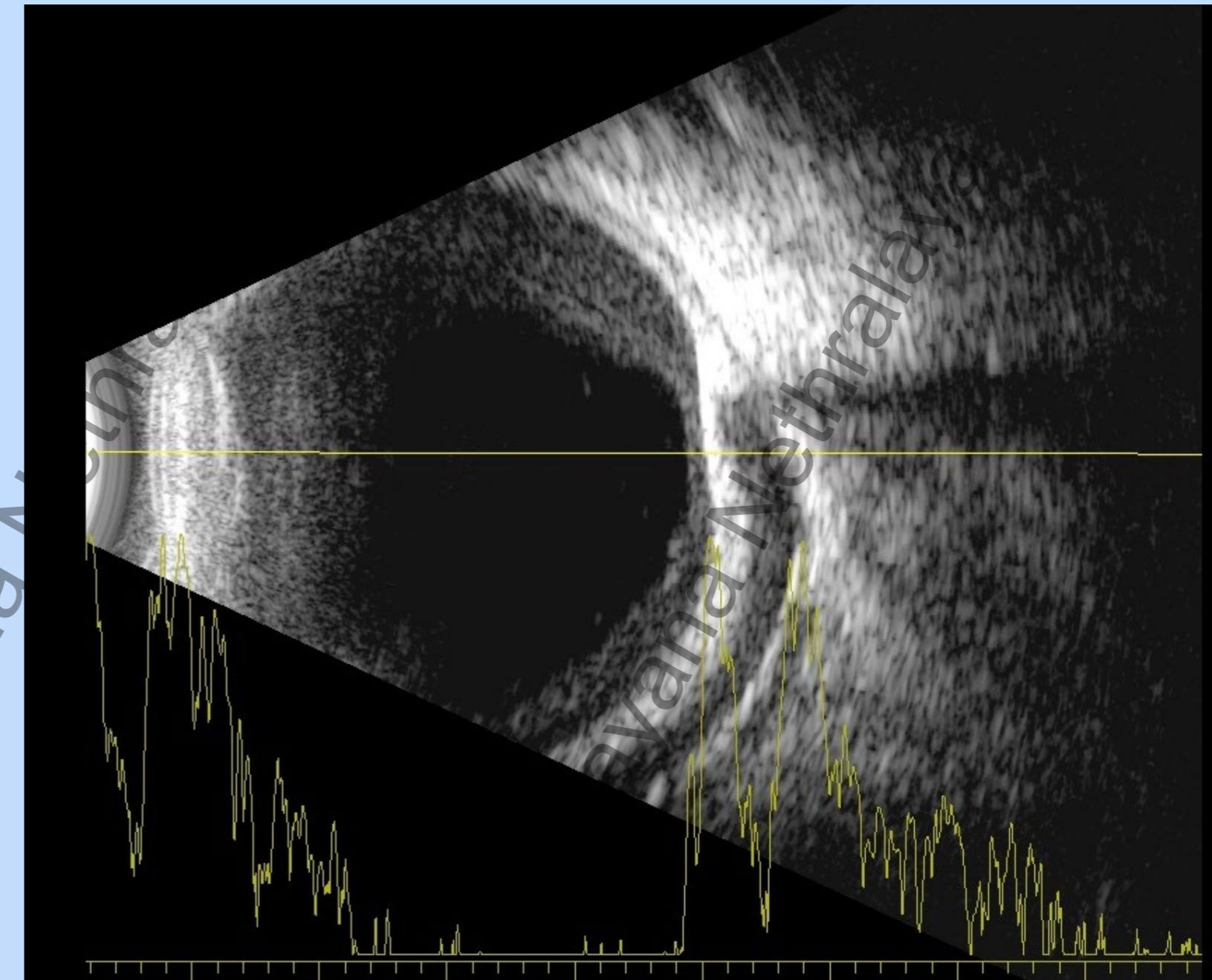
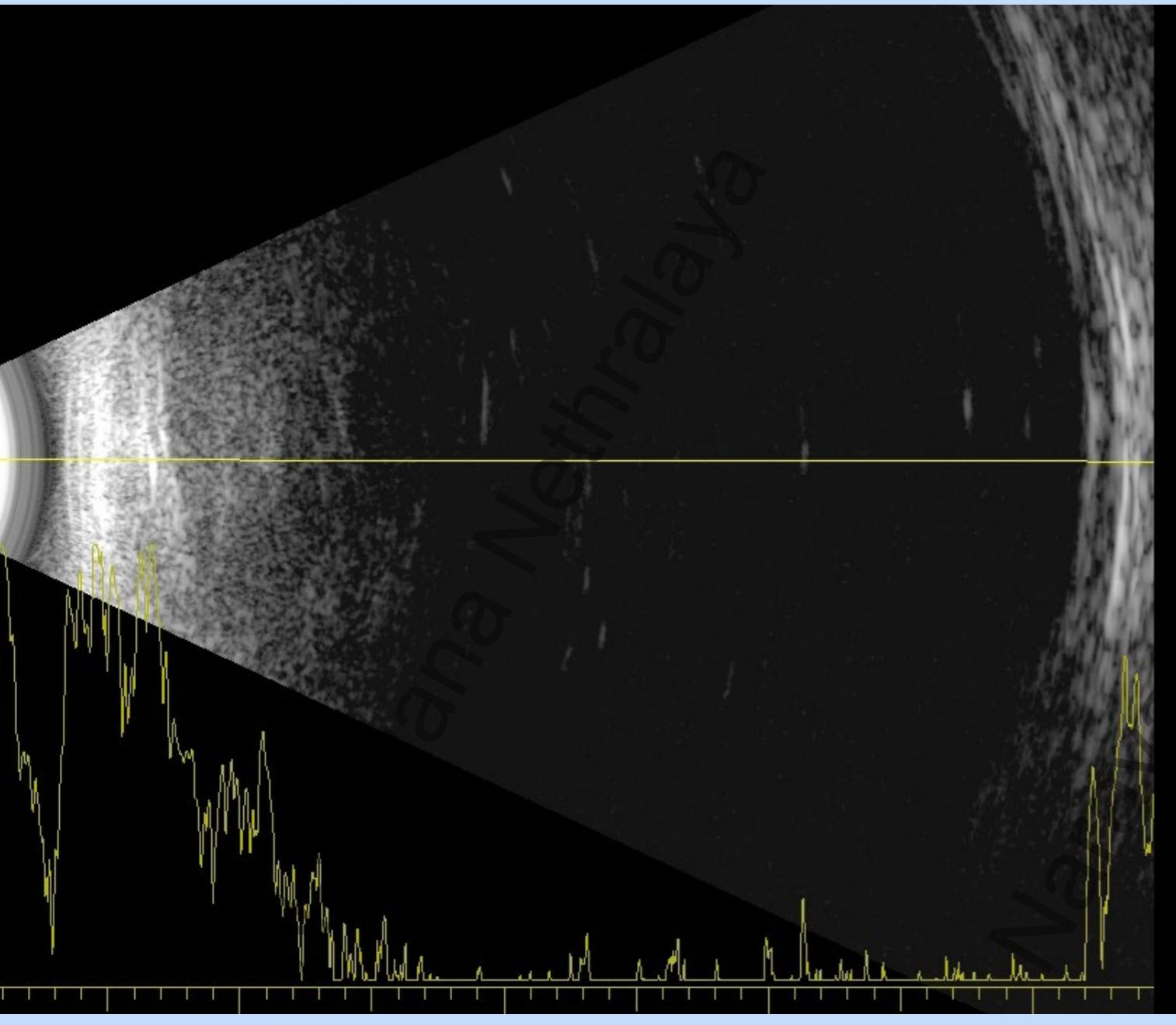
TRD



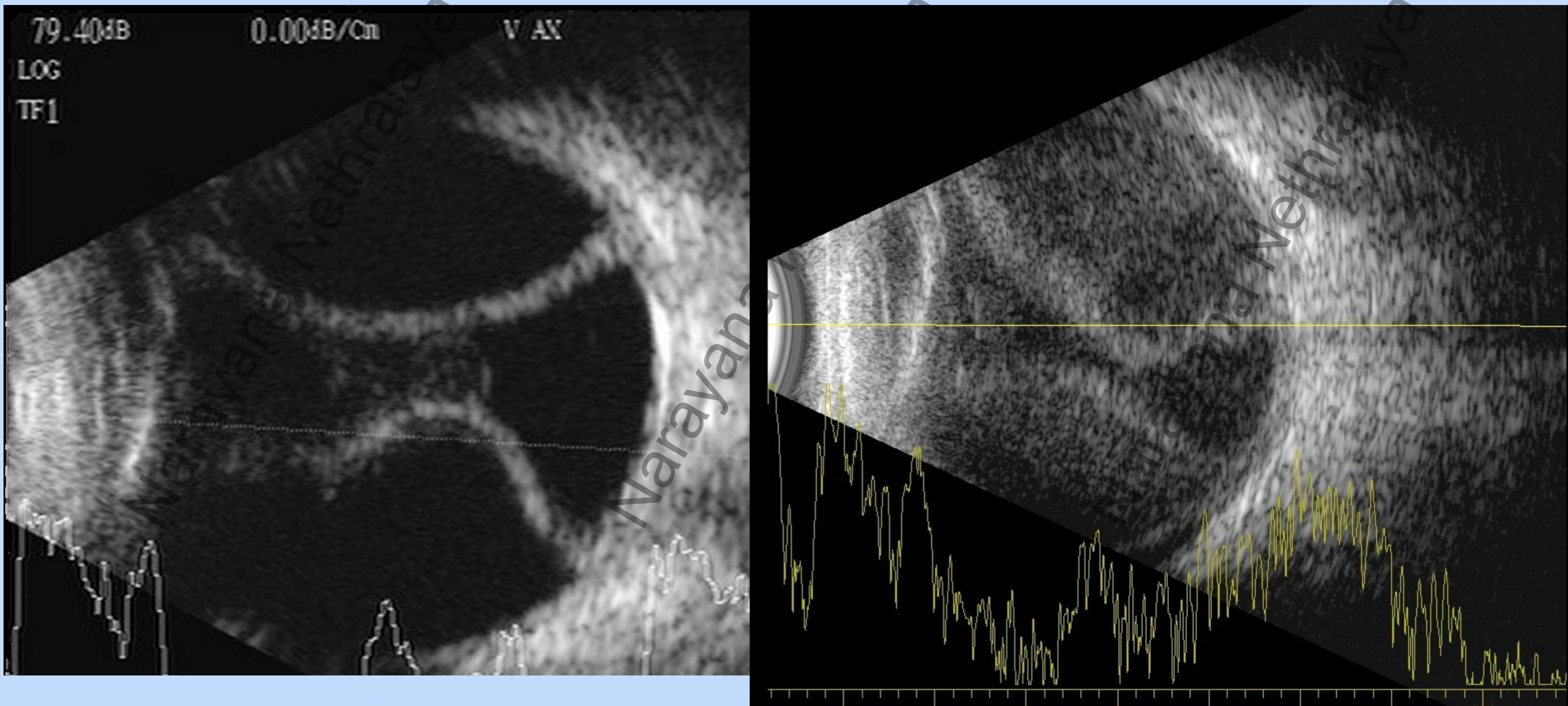
Varayana Nethralaya

Varayana Nethralaya

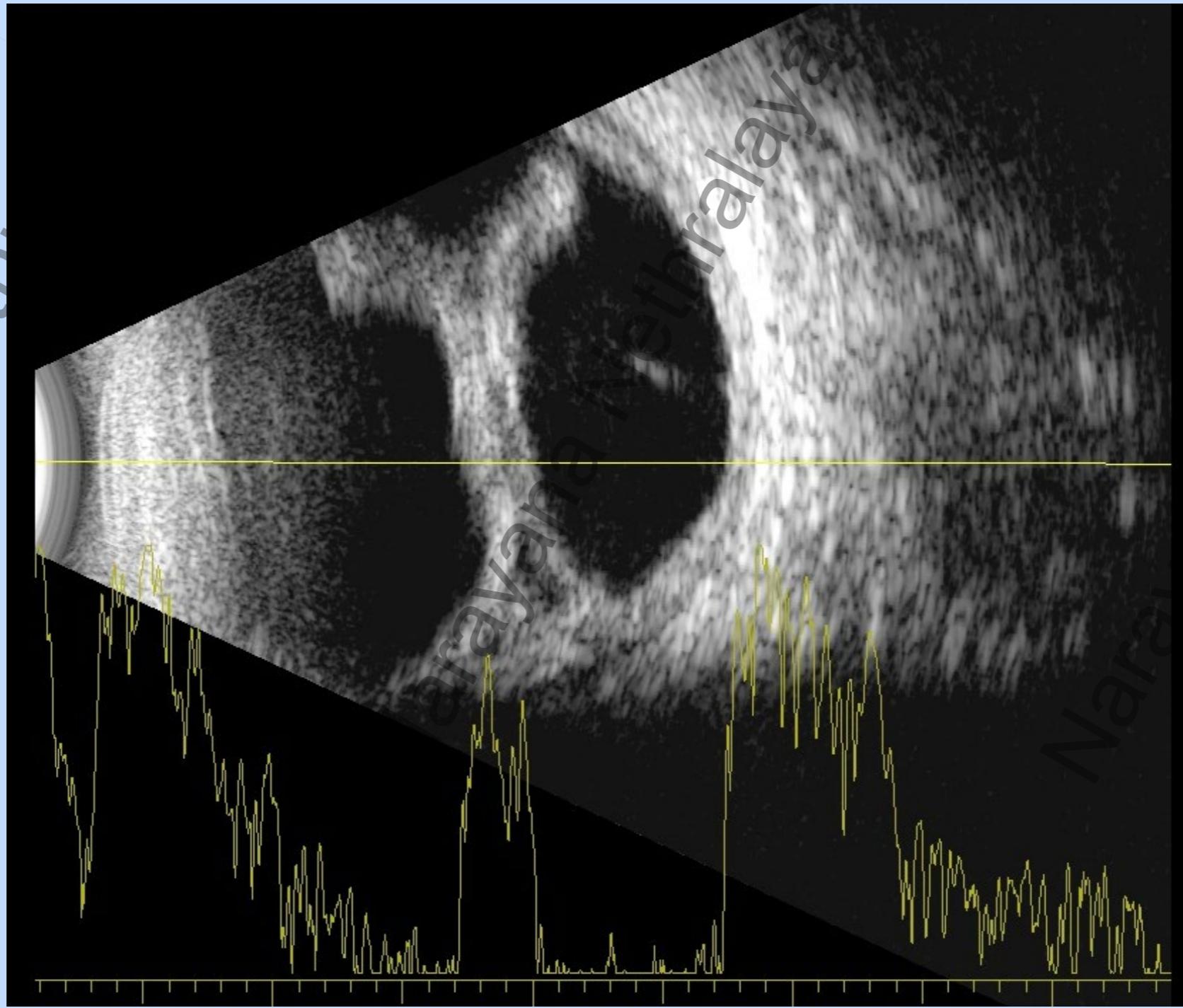
Varayana Nethralaya



CHOROIDAL DETACHMENT

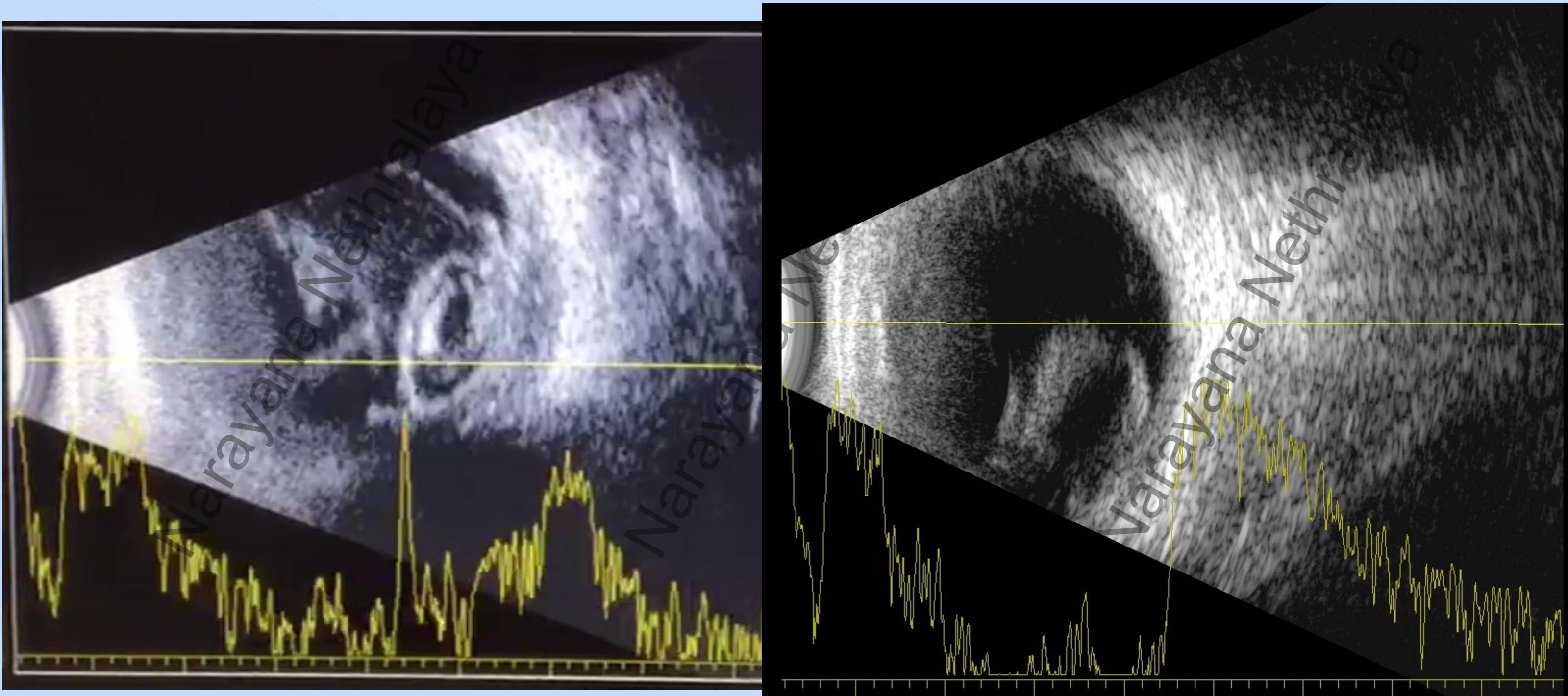


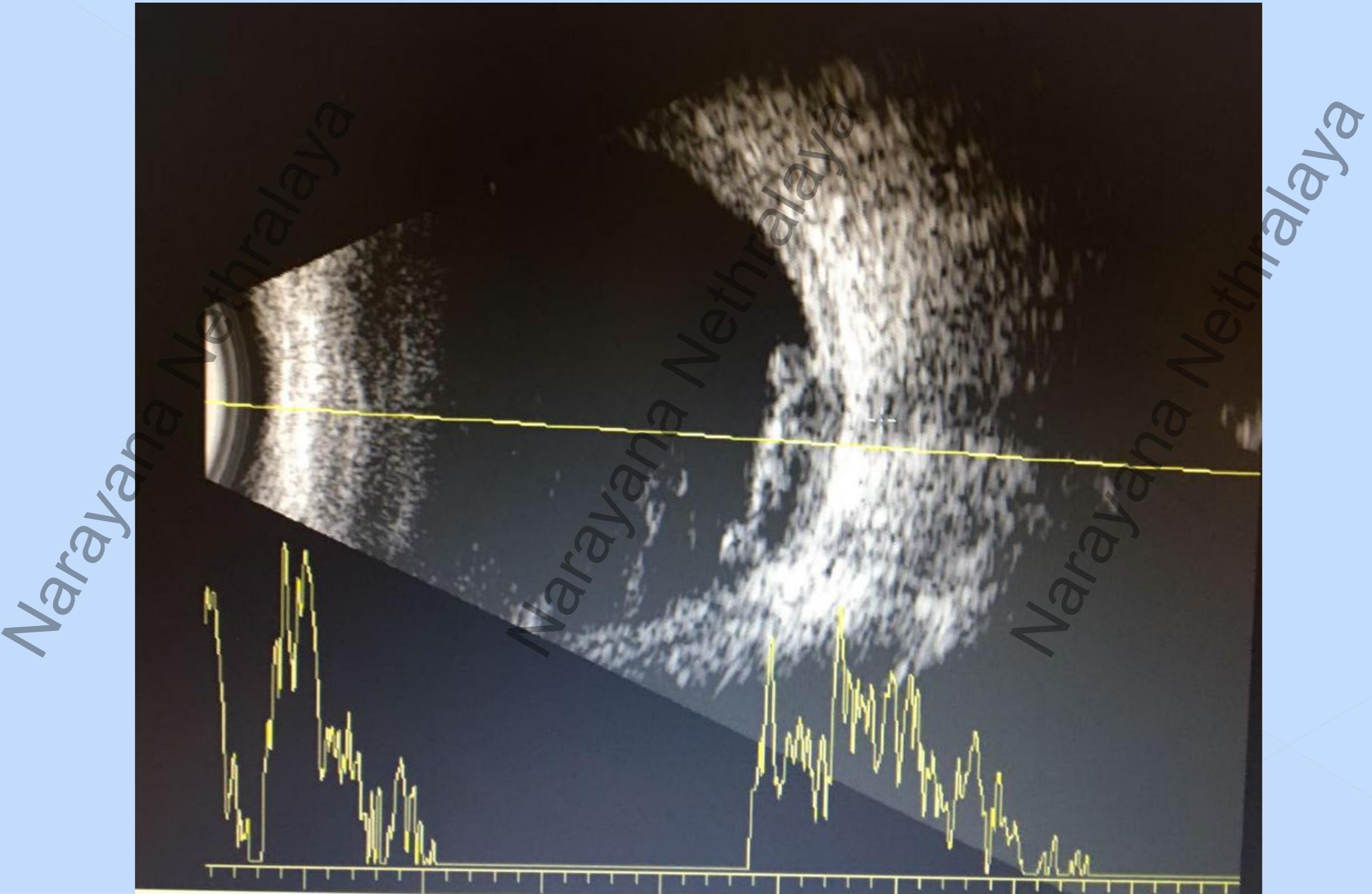
CHOROIDAL DETACHMENT KISSING CHOROIDS

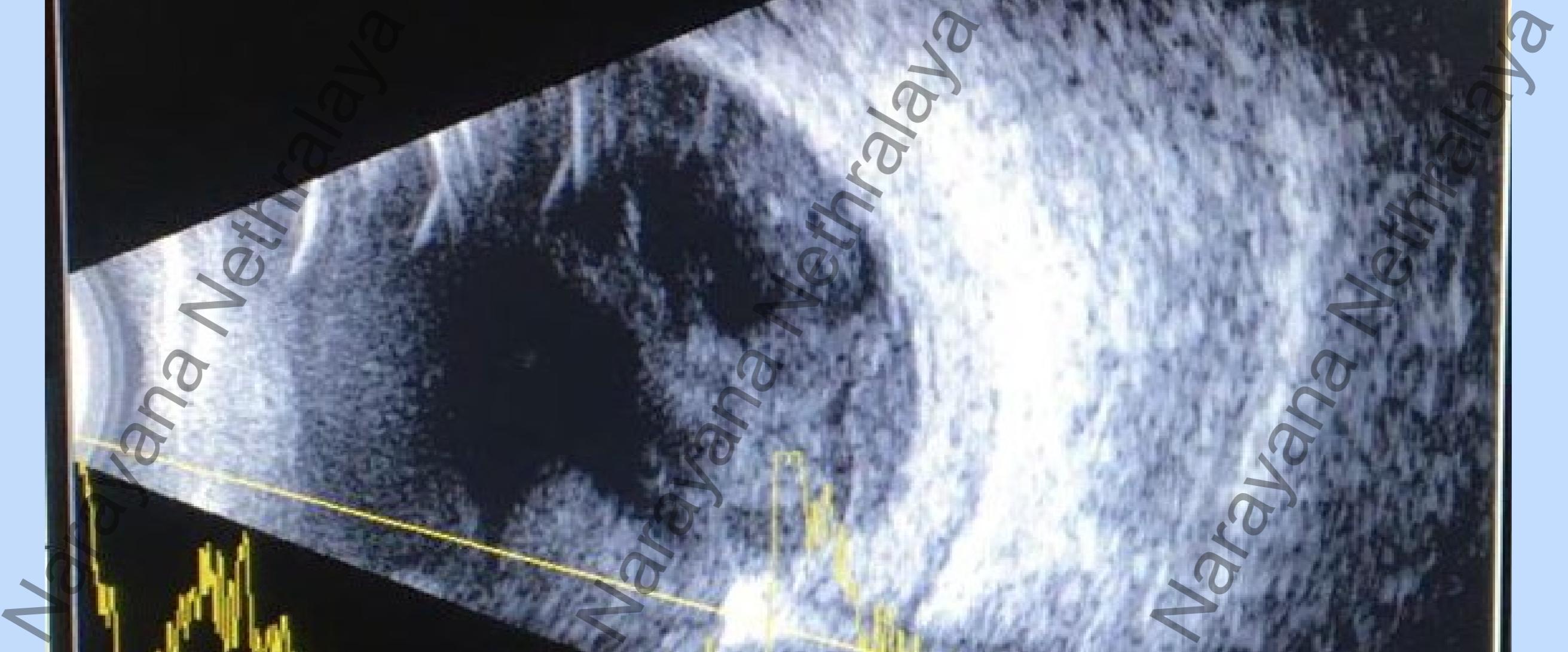


Narayana Nethralaya

Dislocated lens







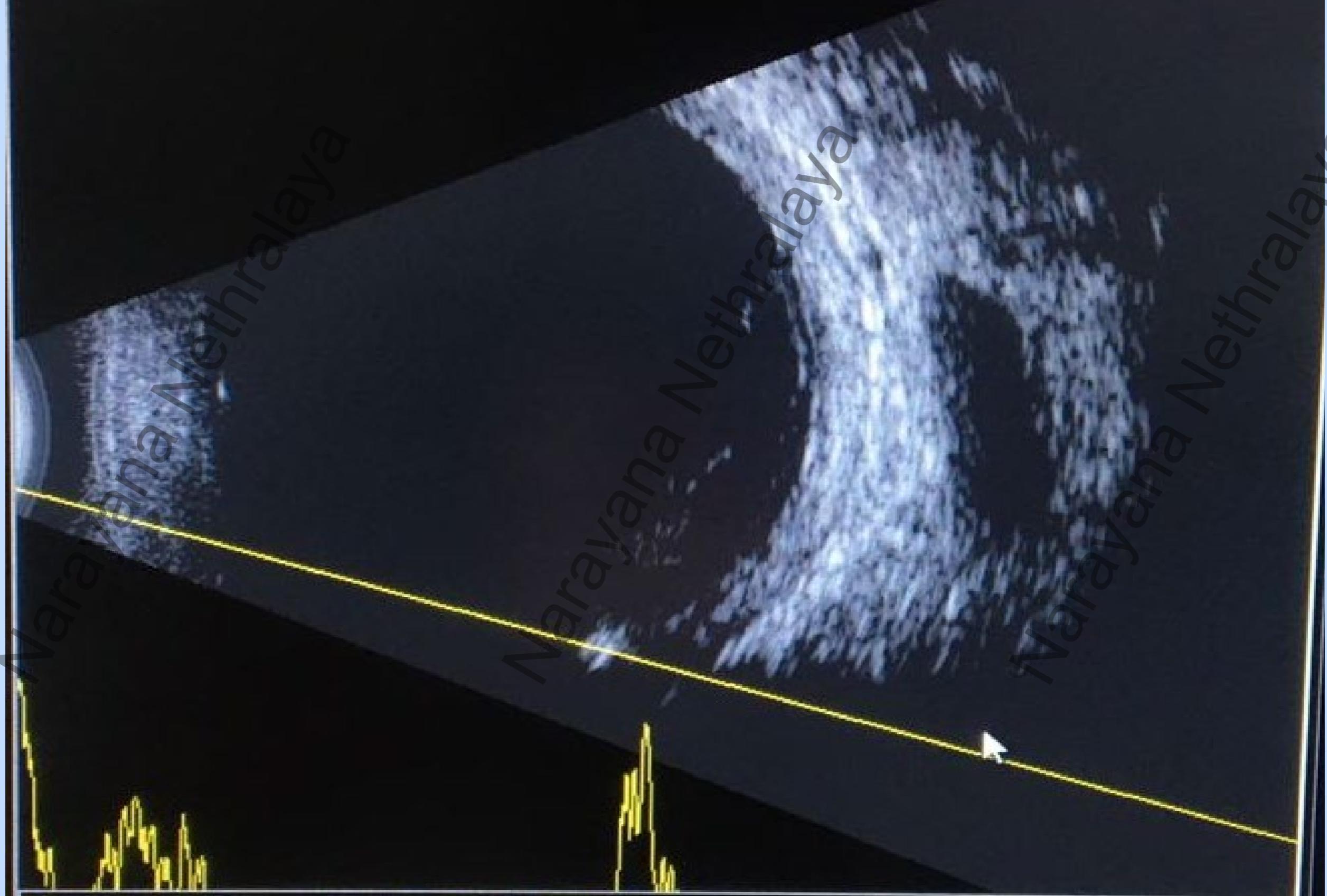
ODOS

9

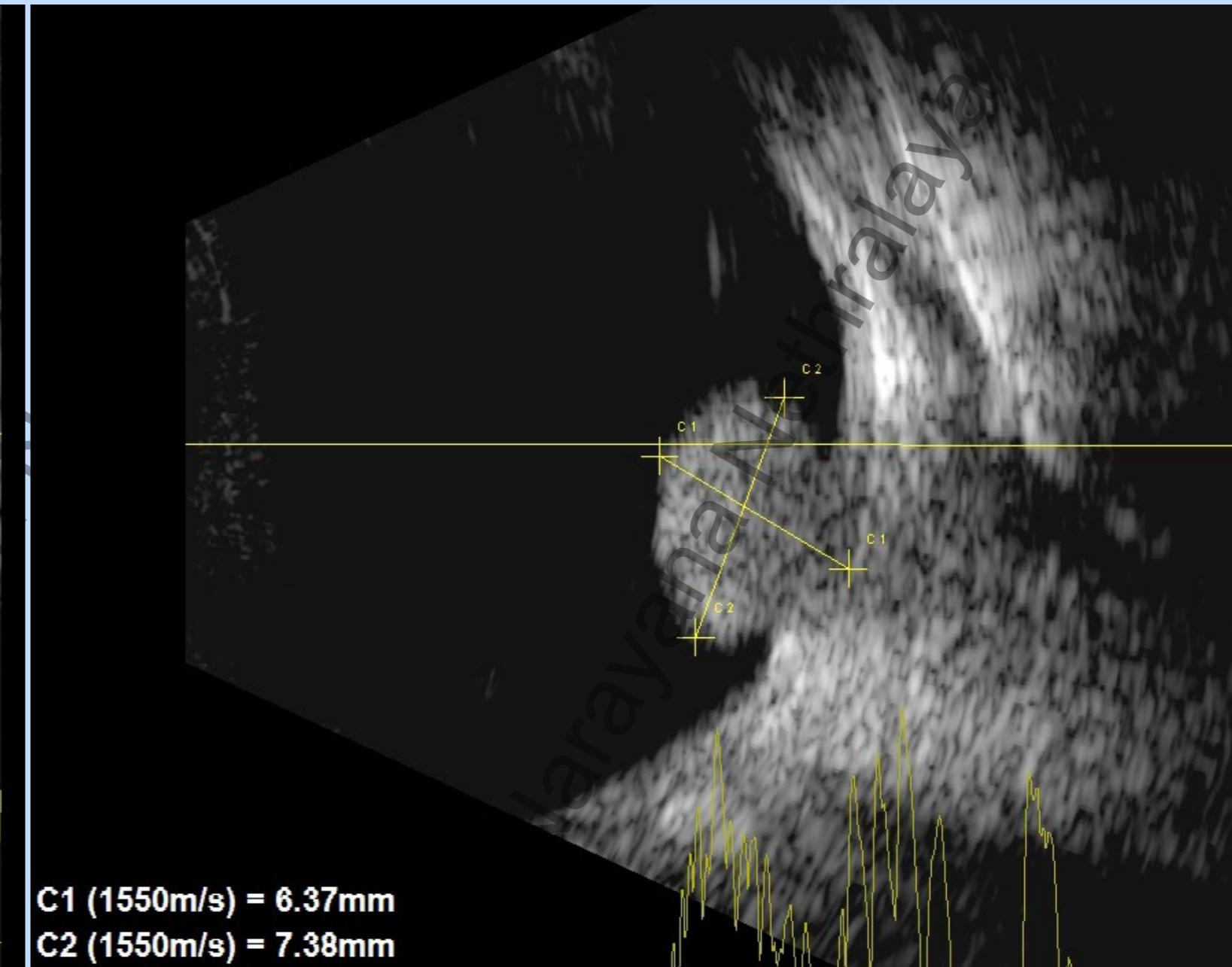
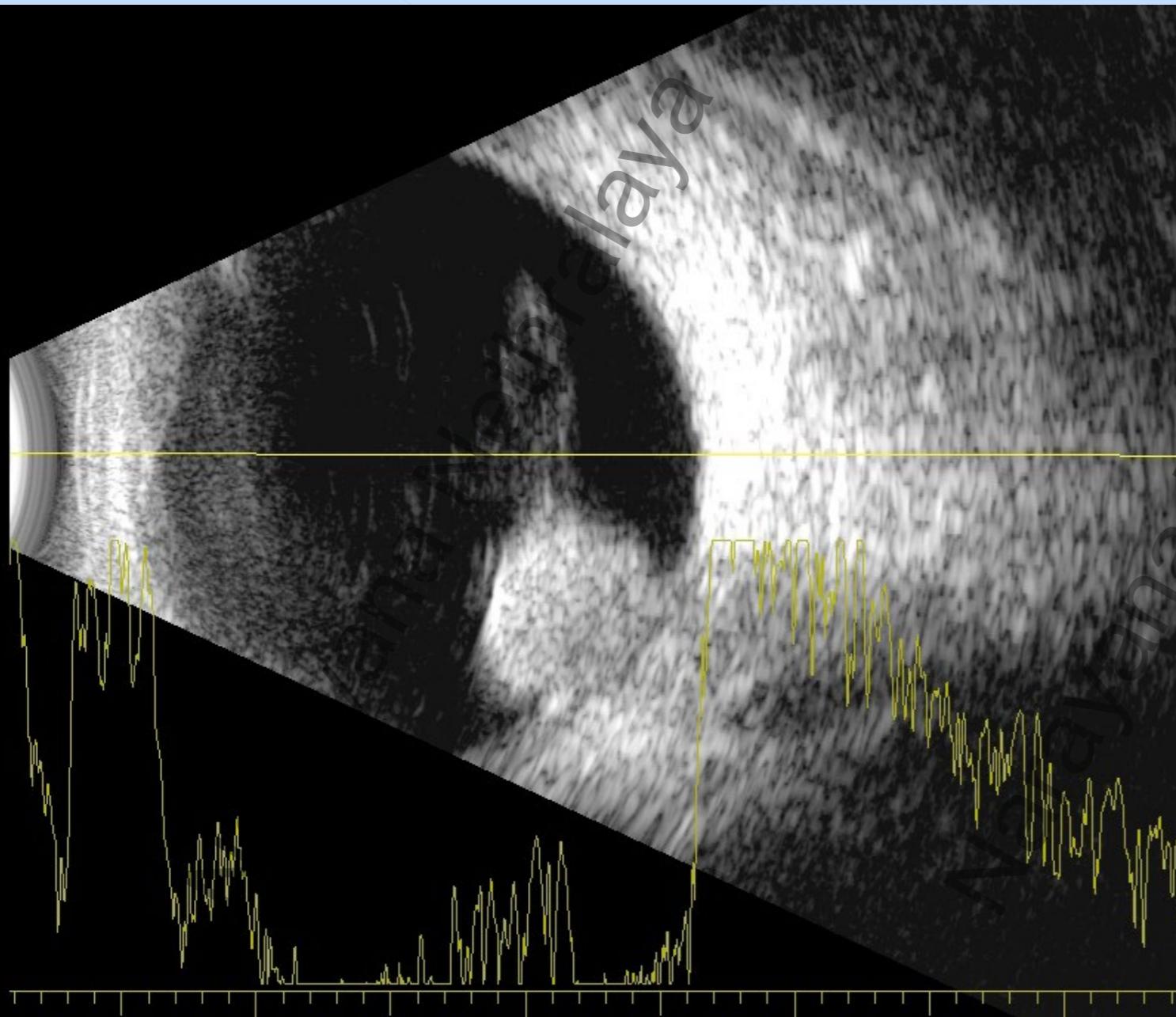
Narayana Nethralaya

Narayana Nethralaya

Narayana Nethralaya

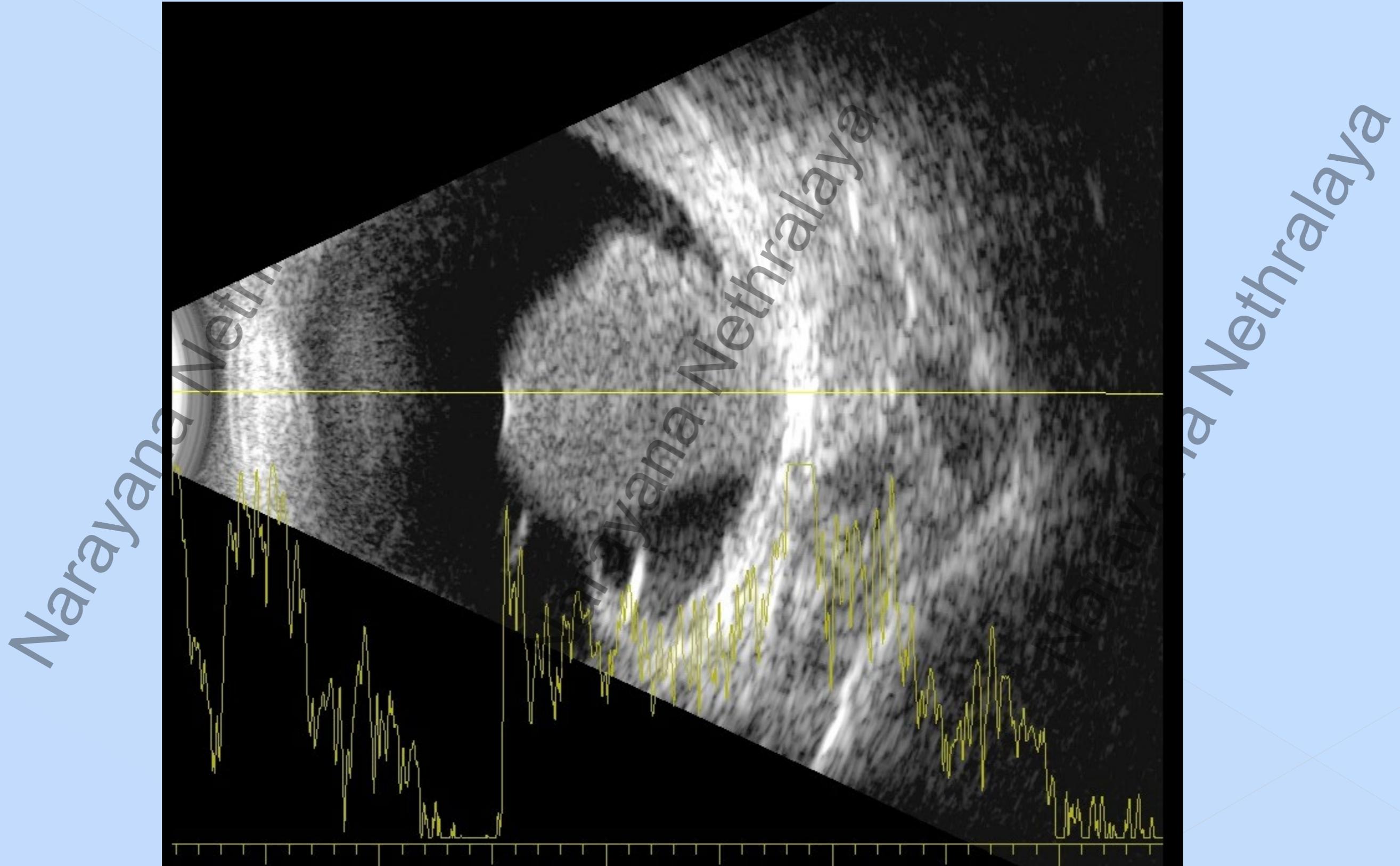


Choroidal melanoma

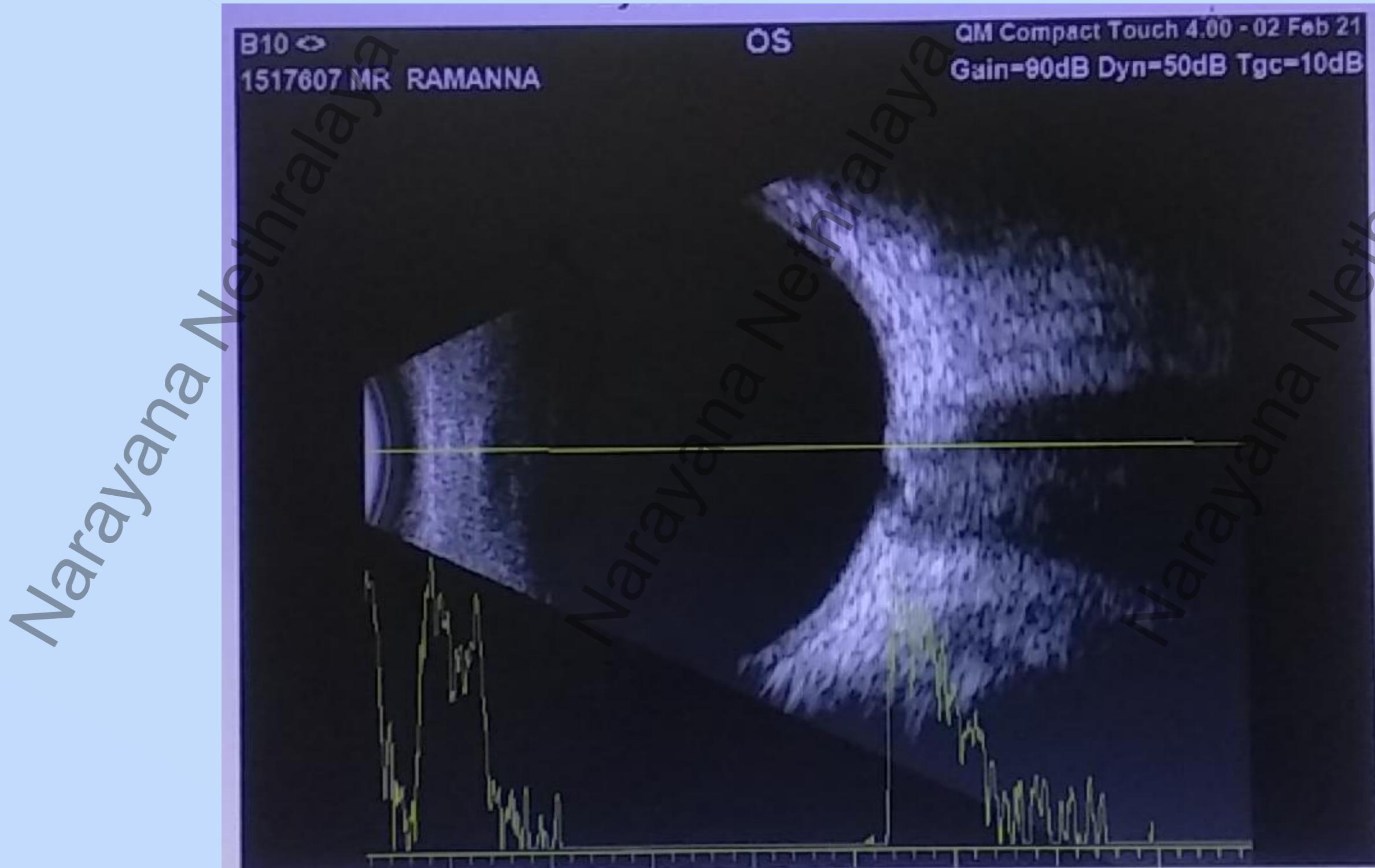


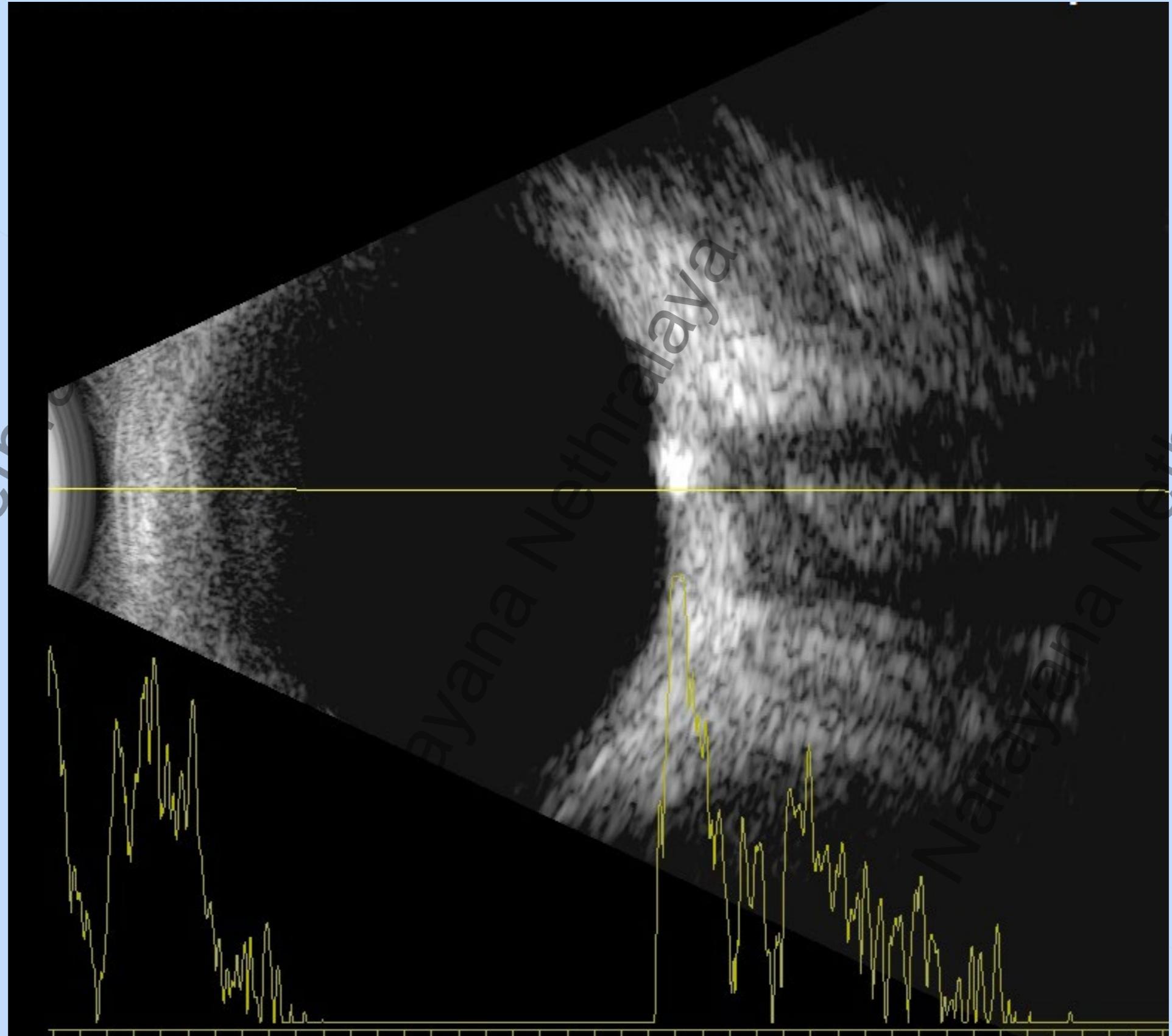
C1 (1550m/s) = 6.37mm
C2 (1550m/s) = 7.38mm

Choroidal melanoma

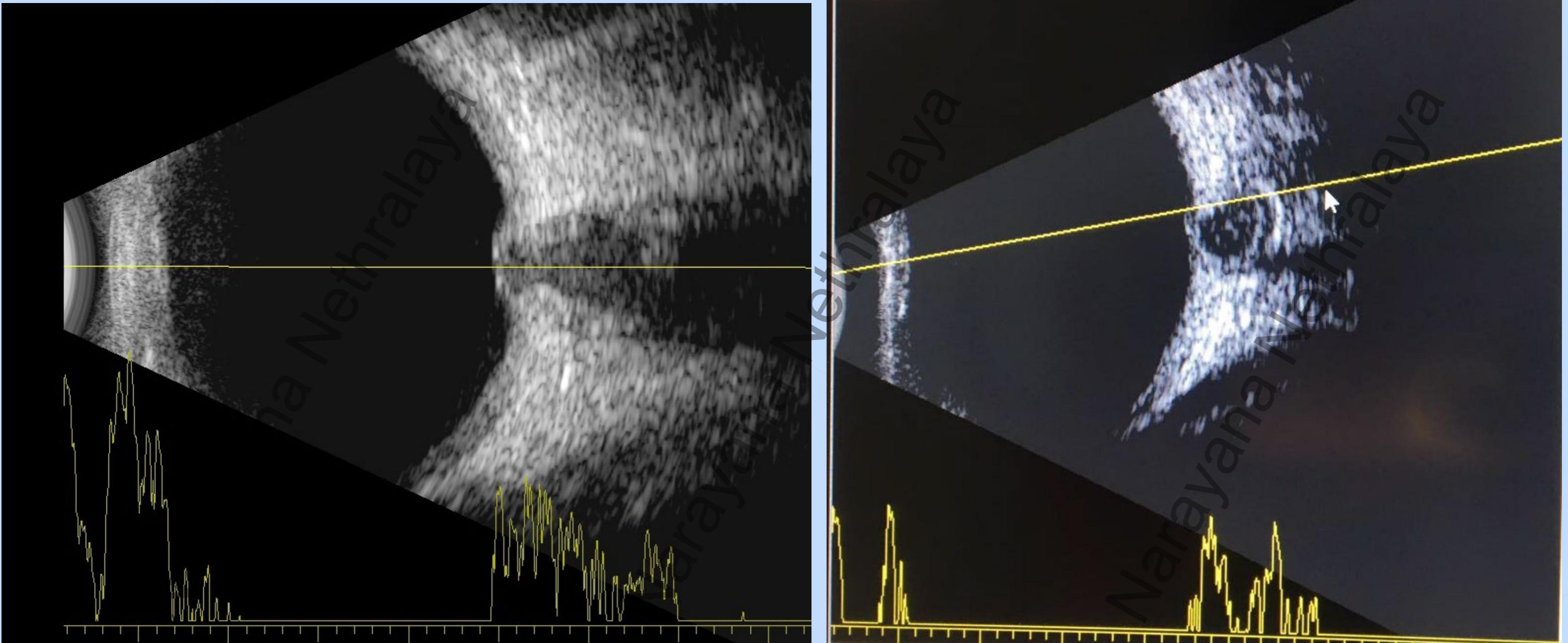


ONH Cupping

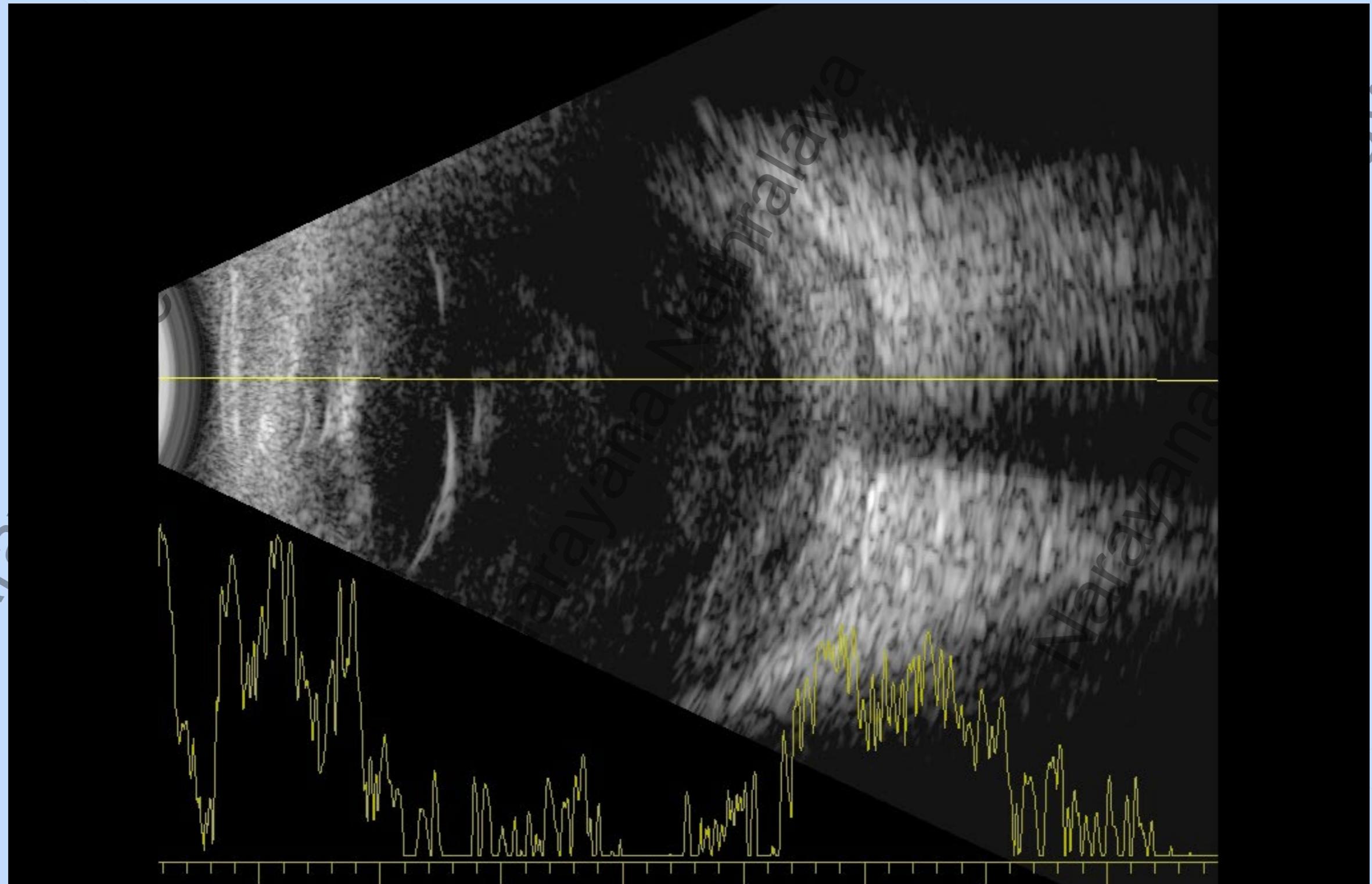




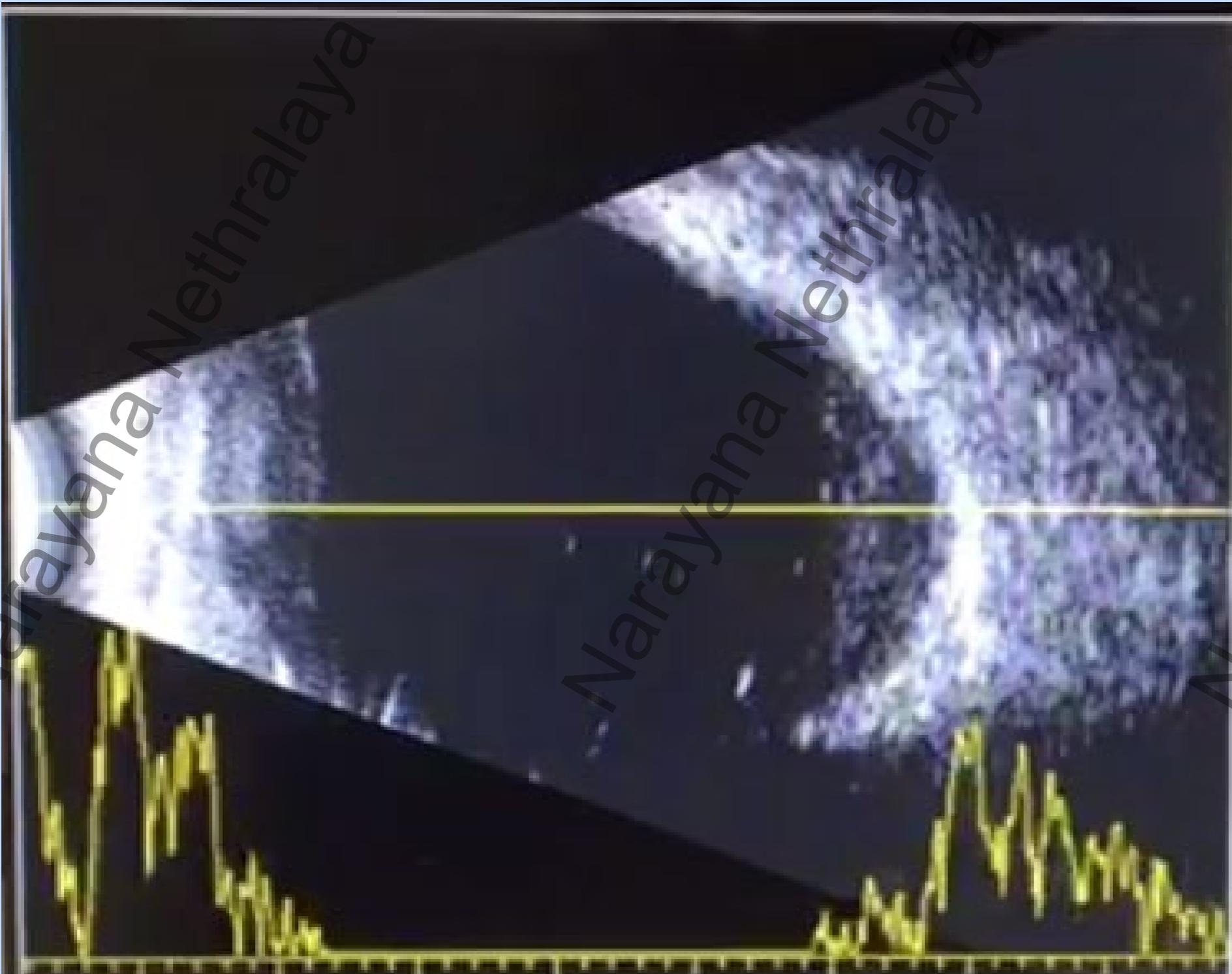
Narayana Nethralaya



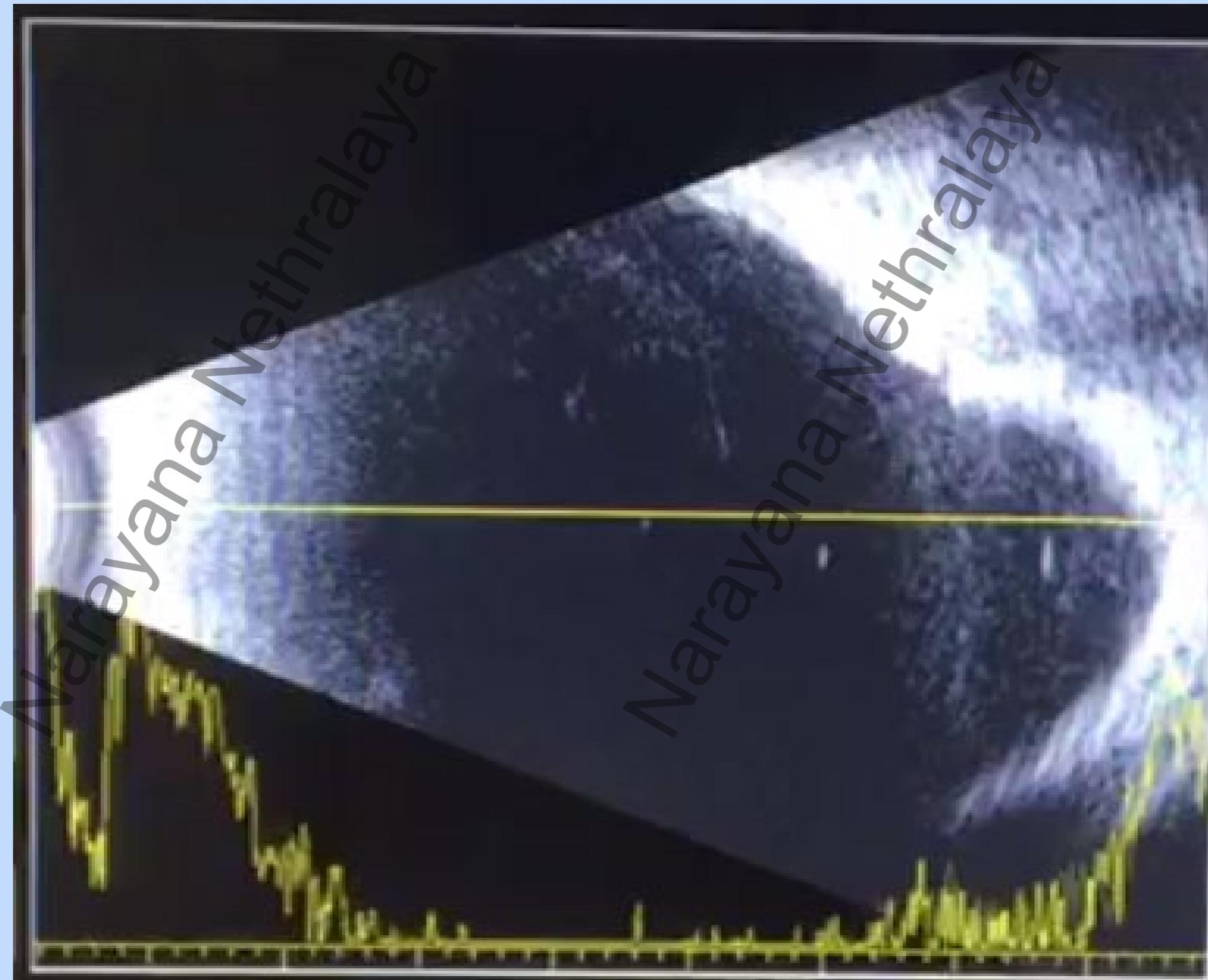
Sub tenons fluid



Posterior staphyloma



Coloboma



Narayana Nethralaya

THANK YOU!

