

Diabetic Vitrectomy

By

AHMED ABD EL ALIM ABO ZAID

Assistant Professor -Ain Shams university

Vitreo retinal consultant

ESO 2023

Basic Vitrectomy course

1

Anti-VEGF injection from 2 days to 1week before surgery makes your surgery easier ...

- but.. not more than 2 weeks....!!!,it may convert tractional into combined tractional rhegmatogenous R.D.

2

Prognostic factors

VA

P.R.P.

No rubeosis

No neovascular glaucoma

Macula threatened or involved.

Tractional or combined R.D.

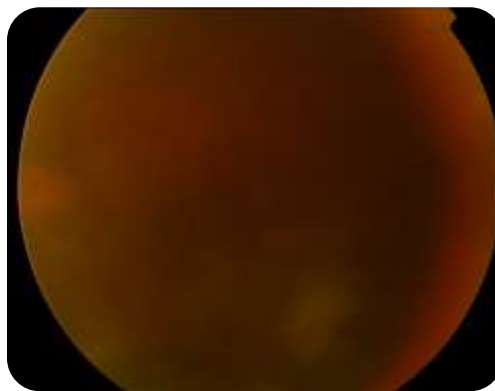
Vascular occlusion or macular scar

3

Indications of Vitrectomy

1-VITREOUS Hge: commonest indication

..... severe, persistent only!!!

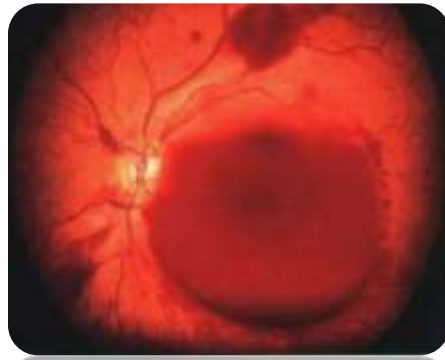


Ahmed abd el Alim M.D.

4

Early vitrectomy in:

- 1-type 1...(DRVS)
- 2-No adequate P.R.P.
- 3- Associated with rubeosis
- 4-bilateral or single eye
- 5-In Subhyaloid type .



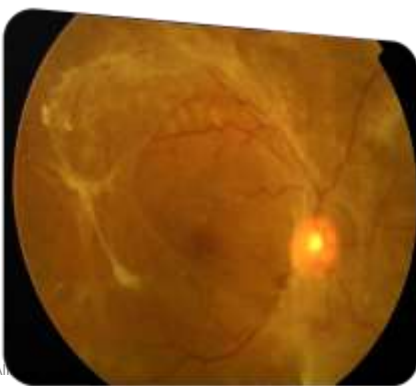
Ahmed abd el Alim M.D.

5

2-TRACTIONAL R.D.:- ...static traction....

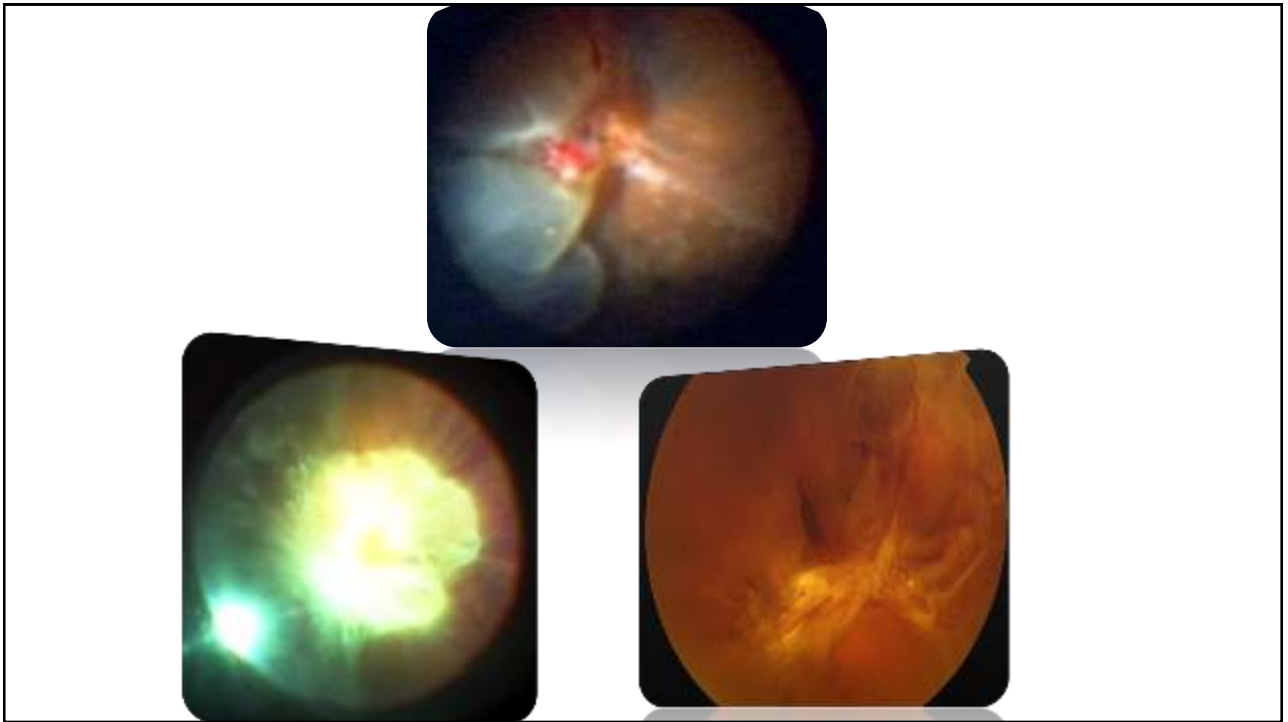
Factors affecting:-

- ... threatening or involving the macula and its duration
-Combined or not.....
-mainly fibrous or vascular.



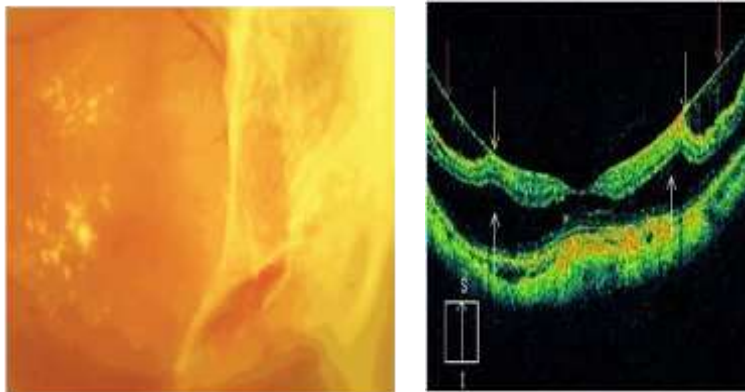
Ahmed abd el Alim M.D.

6



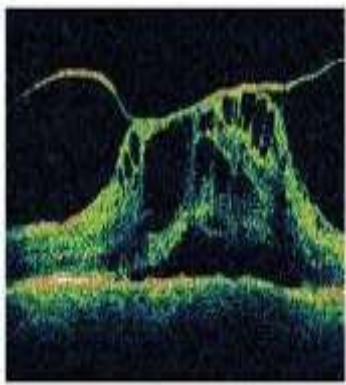
7

TOPOGRAPHIC DETACHMENT



Ahmed abd el Alim M.D.

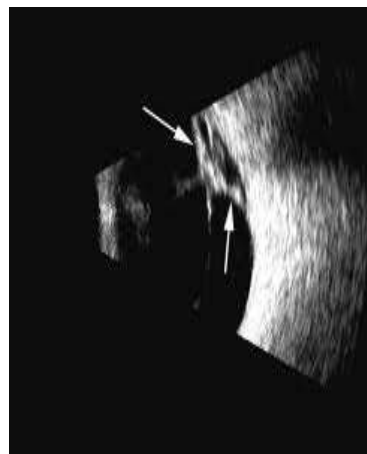
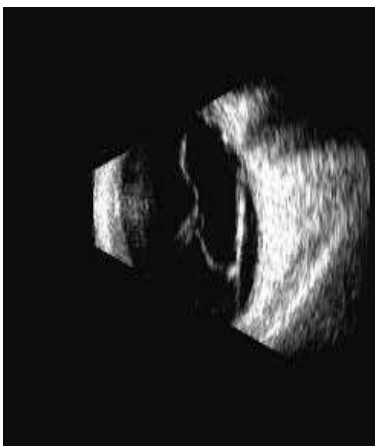
8



Ahmed abd el Alim M.D.

9

ULTRASOUND DIAGNOSIS



Ahmed abd el Alim M.D.

10

NO FUNNEL DETCHMENT IN DR

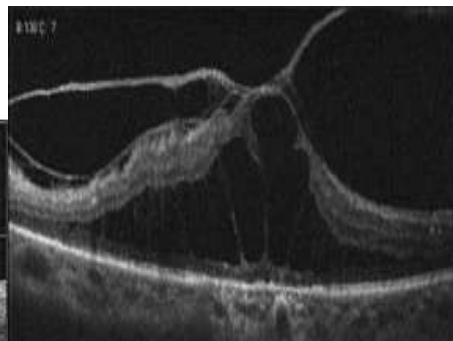
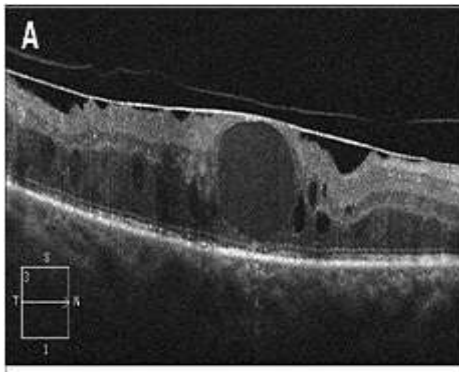


Ahmed abd el Alim M.D.

11

3-Tractional Macular Edema:-

Persistent edema after laser and/or injection protocol D ..DRCR net.



Ahmed abd el Alim M.D.

12

Steps of Vitrectomy

- **Lens removal:**...if cataractous.
clear lens extraction in..AHFVP



It increases the incidence of neovascular glaucoma, rubeosis by 25% with antiVEGF this incidence decreases.

Intraoperative miosis.

3-Piece IOL is preferred.

Ahmed abd el Alim M.D.

13

Core Vitrectomy

- It means removal of the central part of the vitreous (the core vitreous).

Cutting rate 3000-4000 cpm,
vacuum 300-400 mmHg. Using TA injection.



Ahmed abd el Alim M.D.

14

Dissection of the posterior hyaloid

- Using sharp pick to create an edge of the posterior hyaloid the grasping it with a forceps to separate it from the underlying retina and then removing it with the cutter

when to start:

Around the disc(weis ring)

Or rarely around the fovea

TA stain assisted.



Ahmed abd el Alim M.D.

15

Dissection of the fibrovascular membranes

The adhesions of the fibrovascular membranes to the retinal surface and the posterior hyaloid are called "epicenters".

These epicenters may be unifocal ,multifocal or diffuse.

During dissection bleeding and iatrogenic tears can occur.

The use of bimanual techniques

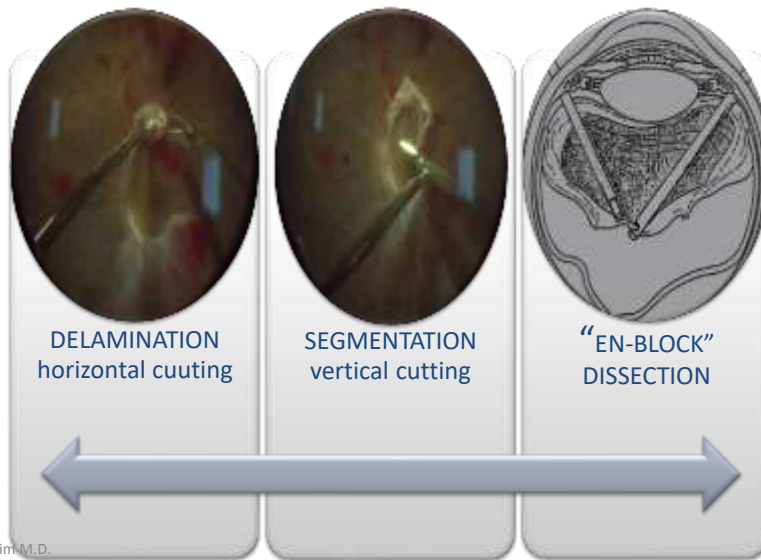
preoperative Anti-VEGF,P.R.P.

Intraoperative : endo-diathermy and PFC ,bottle heightens .

Ahmed abd el Alim M.D.

16

Techniques of dissection



Ahmed abd el Alim M.D.

17

3- dissection of the fibrovascular membranes

- ***In Delamination***: after removal of the posterior hyaloid, horizontal cutting scissor is used parallel to the retinal surface to separate the membrane from the retina.



Ahmed abd el Alim M.D.

18

Segmentation:

- Used in large membranes to divide it into pieces using vertical scissor perpendicular to the retinal surface in large membrane



Ahmed abd el Alim M.D.

19

En-block dissection

- In this technique: only openings in the posterior hyaloid are done without removing completely to get access to the fibrovascular bands, then after complete dissection of the membranes an "en-block" removal of the posterior hyaloid and the fibrovascular membranes is done.
- Usually all these techniques are used in the same case to achieve your aim of clearing your retina from the membranes.

Ahmed abd el Alim M.D.

20

Bleeding control

Diathermy at the bleeding points and epicenters.

Bimanual technique

Double tamponade technique:

air exchange then PFC under air then fluid.

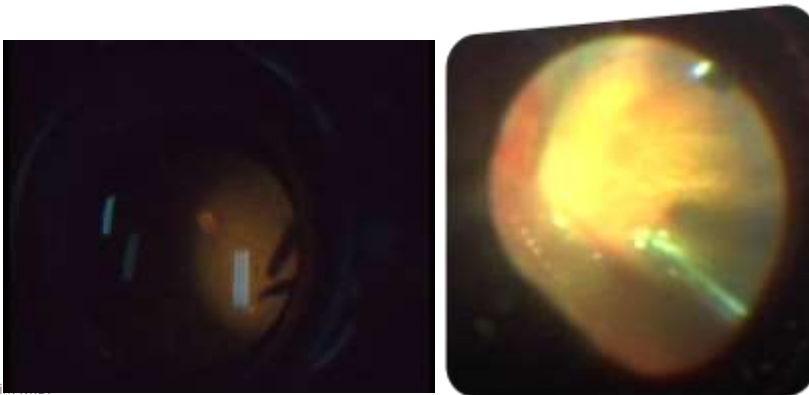
Use of Visco elastic

Ahmed abd el Alim M.D.

21

4-SHAVING OF THE VITREOUS BASE

- Complete shaving is necessary to be sure of complete membranes removal especially in the presence of anterior hyaloid fibrovascular proliferation (AHFVP).
- "THERE IS NO COMPLETE VITRECTOMY WITHOUT SHAVING"



Ahmed abd el Alim

22

VITREOUS TAMPONADE

If no breaks and/or bleeding:

fluid ,air or even oil filled especially In NVD.

If there are breaks and/or bleeding :

Gas or silicone oil occurred to the site, size and number of breaks.

P.R.P.

Closure

Ahmed abd el Alim M.D.

23

Post-operative follow-up

Recurrent he (30-50%)

Complicated cataract(100%)

Glaucoma(30-50%)

Rubeosis and recurrent proliferation.

If silicone oil is used it must be removed 3-6 months usually with cataract extraction.

Ahmed abd el Alim M.D.

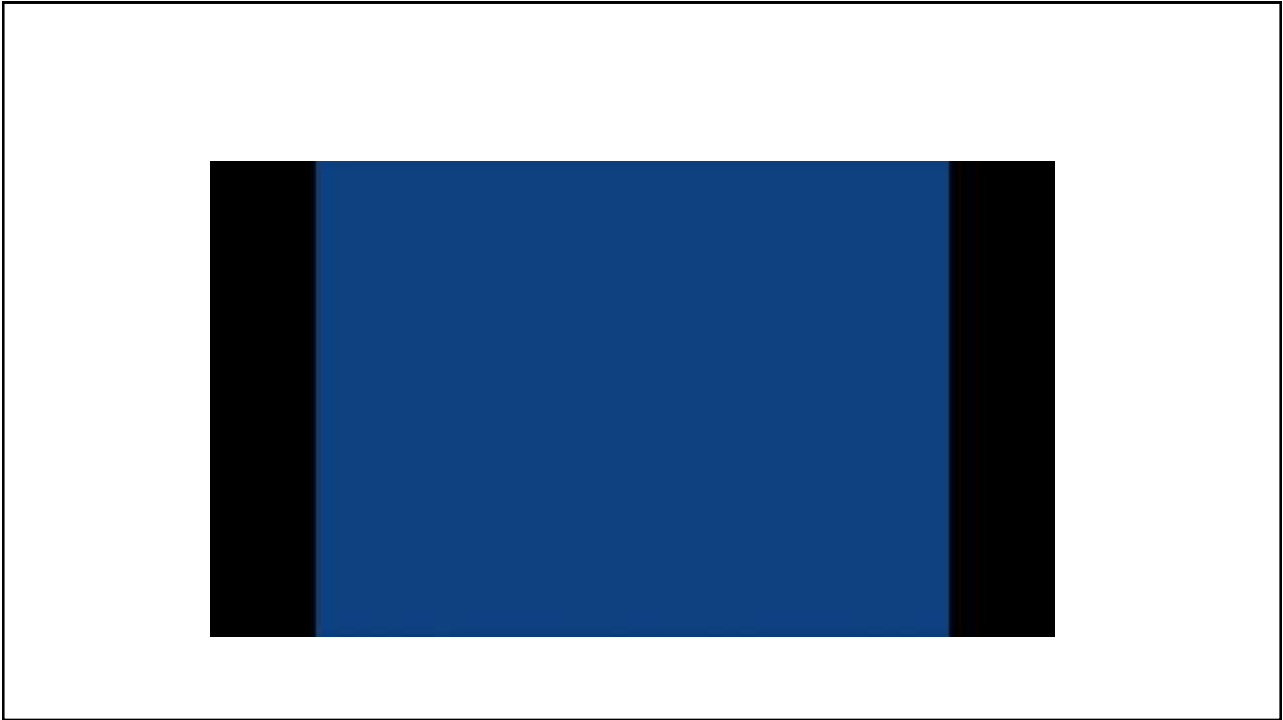
24



25



26



27



28