

EPIRETINAL MEMBRANES

Epiretinal membranes are known by a variety of names, including cellophane maculopathy, surface wrinkling Retinopathy.

I call it like the “skin of the Custard” growing on the back of the eye. As seen here to the left. Most of the time it does not cause much of a problem, just taking the edge off the vision. Just occasionally it progresses and in which case the membrane can be easily peeled away.

Epidemiology

Affects up to 7% of population. Is common. First described by Iwanoff in 1865.

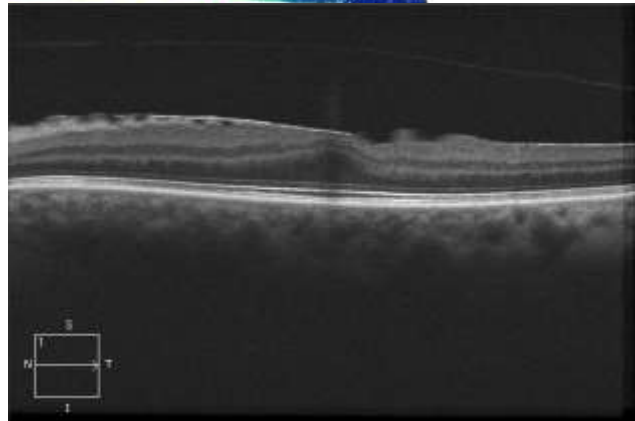
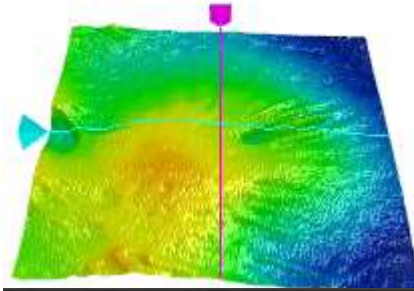
Definition

An Avascular fibrocellular membrane with contractile properties that proliferate on the surface of the central retina.

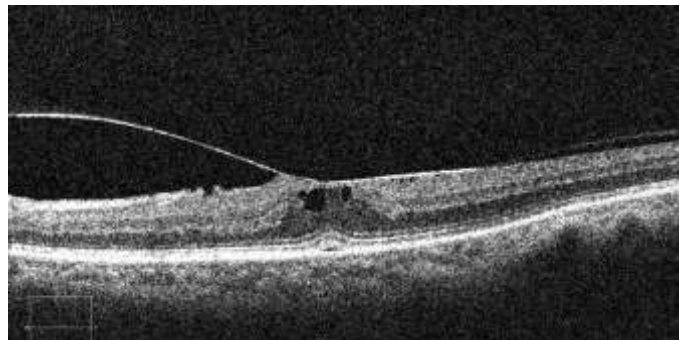
Causes

Epiretinal membranes occur with numerous ocular conditions and diseases, including vascular, inflammatory, dystrophic, traumatic, neoplastic, and degenerative conditions. Most epiretinal membranes occur following posterior vitreous detachment. Around 75% or more of epiretinal membrane have a vitreous detachment. (This is where the jelly of the eye comes away from the retina, a normal feature as we get older, the Jelly collapses and peels away from the retina) This can be seen in this case with the light line above the retina and the epiretinal membrane beneath on Optical Coherence Tomography scans.

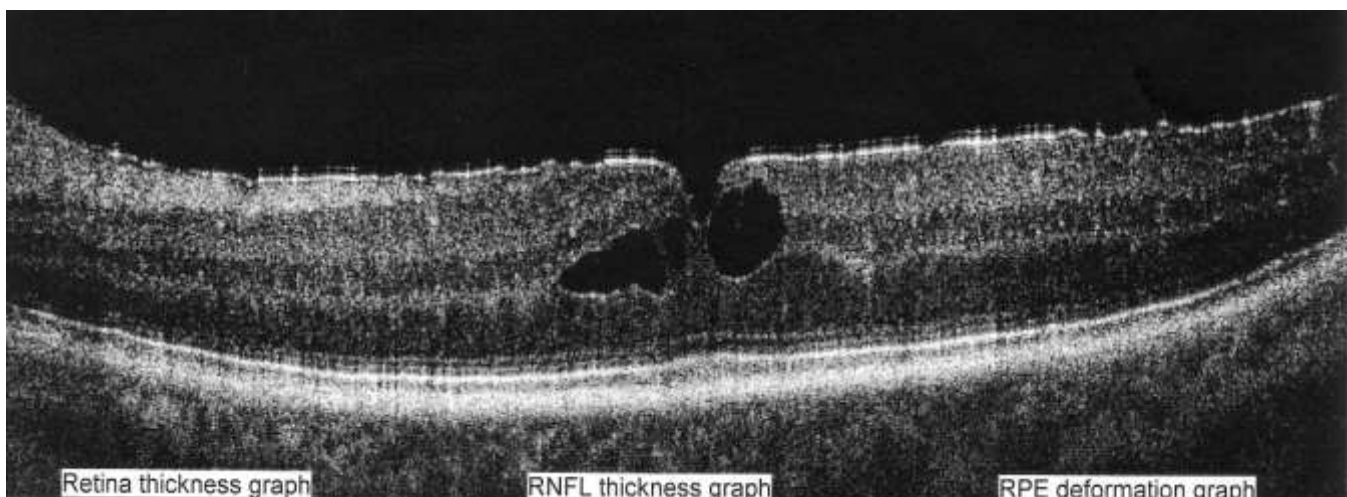
However 68% have NO cause associated with the membrane.



Above is an example is quite a fine small membrane, probably not for surgery even though the retina is thickened



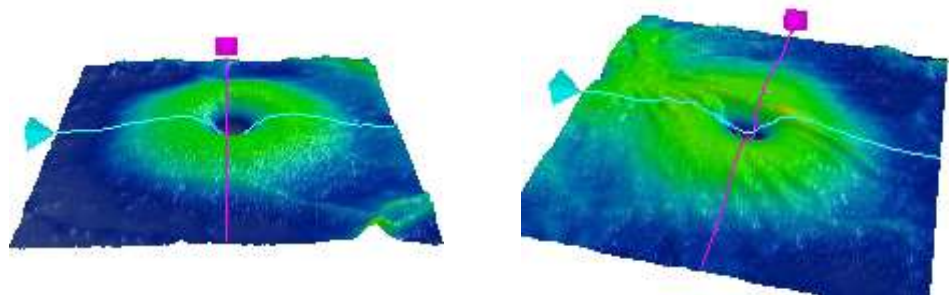
Above is an example of a membrane that is causing Vitreo Macular Traction, with cystic spaces forming at the fovea. The patient has distortion and blurred vision. This sort of membrane would be suitable to be peeled away with surgery.



Symptoms

Most patients with epiretinal membranes are asymptomatic. Those with more severe epiretinal membranes may notice blurred vision, distortion, diplopia, and even profound central visual loss.

The two 3D scans show a normal macular profile on the left and the fundus with an epiretinal membrane on the right.



There is a great variety of the appearances of membranes, no two membranes are the same.

Other features seen are:

Small Intraretinal haemorrhages

Areas of inner whitening due to ischaemia

Central macular oedema with pseudocystic formation

Macular pseudoholes – 10%

Prognosis

Most epiretinal membranes remain stable, although approximately 25% of eyes may have progressive loss of visual acuity.

Surgery - C7890 Vitrectomy with Membrane Peel.

When epiretinal membranes cause significant visual loss, surgical removal is considered. The surgery involves removing the posterior vitreous, elevating the epiretinal membrane edge with a fine instrument, and tangentially peeling the epiretinal membrane from the retina. Modern techniques have evolved hugely these days in being able to safely remove these membranes and is a most beautiful operation in experts hands. It is the vitreo-retinal surgeons that perform these operations.

The chances of improved vision with posterior vitrectomy and epiretinal membrane stripping are 70% to 80%. Patients can expect to regain approximately half of the vision lost due to the development of the membrane, with vision improving up to 9 months after surgery; however, most of the visual improvement comes within the first 2 or 3 months after surgery.

Risks to surgery

The most common complication of vitrectomy and epiretinal membrane stripping surgery is increased cataract formation, occurring over the subsequent years in most patients. Many of these patients may require cataract surgery within several years of their vitrectomy. The surgery also carries with it the other complications associated with any posterior vitrectomy.

Thus for most patients the risks/benefits of surgery favour observation unless the vision is significantly affected.

[Eye \(Lond\)](#). 2014 Feb;28(2):219-24. doi: 10.1038/eye.2013.253. Epub 2013 Dec 6.

Visual acuity outcomes following surgery for idiopathic epiretinal membrane: an analysis of data from 2001 to 2011.

[Dawson SR](#), [Shunmugam M](#), [Williamson TH](#).

[Author information](#)

Abstract

PURPOSE:

Pars plana vitrectomy (PPV) is commonly used to remove the epiretinal membrane (ERM), but the timing of surgical intervention guided by visual acuity (VA) performance at presentation is uncertain.

PATIENTS AND METHODS:

Prospectively entered clinical data of 237 patients on an electronic patient record from 2001 to 2011 were analysed to determine visual outcomes, in particular in relation to pre-operative VA.

RESULTS:

The mean age of the patients was 68.8 years and 54.4% were female. Median follow-up was 0.55 years. The median pre-operative logMAR VA was 0.60 (SD 0.48-0.78, Snellen equivalent 6/36) and post-operative VA was 0.30 (SD 0.18-0.60, 6/12, $P < 0.005$). Pre-operative VA correlated with post-operative VA (linear $R(2) = 0.22$, $P < 0.0001$). In all, 69.6% of patients showed an improvement in VA, 15.2% showed no change, and the condition of 15.2% worsened. The number of patients with an improvement in logMAR VA of more than 0.3 was greatest in those who had a pre-operative VA of 1.0 (6/60) or worse, followed by those in the range of 0.6-0.9 and then those with pre-operative VA of 0.5 or better ($P < 0.001$). The proportion of patients with visual improvement of logMAR VA of more than 0.3 increased statistically with progressing years ($P = 0.019$).

CONCLUSION:

In conclusion, this study shows improvement in VA after PPV and ERM removal. Patients with better initial VA achieve higher levels of visual outcome but those with poorer pre-operative VA show a greater change in VA following ERM surgery. Results of surgery improved over the time period of the study.

Optical Coherence Tomography – at Opticians

Increasingly Opticians have not only cameras but the latest Optical Coherence Tomography scanners. It is this scan test seen above you need to see this membrane. If you are not being followed by the hospital or consultant going to an Optician practice with an Optical Coherence Tomography would be beneficial though they are likely to make a small charge for this as part of the “Enhanced Eye test”.

Nicholas Lee 2014