

**Management of  
Vitreomacular Adhesion**

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RETINA & MACULA  
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*Dedicated to excellence in care for the back of the eye.*

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**Financial Disclosure**



I have received honoraria or am on the advisory board for the following companies:

Carl Zeiss Meditec  
Reichert Technologies  
Arctic DX – Macula Risk  
Notal Vision  
Thrombogenics

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**Vitreomacular Traction/Adhesion**

The management of Vitreomacular Adhesion (VMA), (VMT) and Macular holes



We now have another option!

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**Vitreomacular Traction/Adhesion**

The use of current SD OCT imaging technology has allowed a non invasive, high resolution view of the vitreoretinal interface (VRI) and has led to new insights into the natural history of diseases of the VRI.

In a subset of people, the separation between the vitreous cortex and the internal limiting membrane of the retina is incomplete.

When the vitreous cortex remains firmly attached to the macula it is known as a vitreomacular adhesion (VMA).

VMA can cause traction on the retinal surface and as a result you have vitreomacular traction (VMT).

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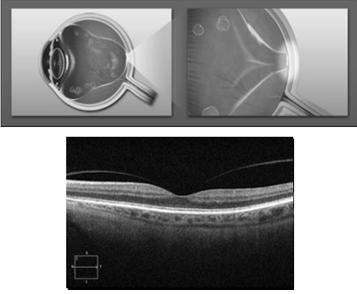
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**Vitreomacular adhesion /traction**



[www.jetrea.com/patients/](http://www.jetrea.com/patients/)

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**Vitreomacular Traction/Adhesion**

Symptoms of VMA

- Metamorphopsia
- Decreased central visual acuity
- Macropsia
- Central visual field defects

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**Vitreomacular Traction/Adhesion**

Symptoms DO NOT equal treatment however educating the patient is our duty.....

Treatment options for VMA/VMT

- Watchful waiting (home amsler grid education)
- Vitrectomy Surgery (most definitive option)
- Ocriplasmin (Jetrea)

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**Vitreomacular Traction/Adhesion**

The management of full thickness macular holes with a complete PVD is well known and involves Vitrectomy surgery, fluid gas exchange and face down positioning of the patient.

The question we are faced with is can we intervene early in the process before a full thickness hole and complete PVD develops.

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**Vitreomacular Traction/Adhesion**

The incidence of a full thickness macular hole is between 1 and 3% depending on what study you read, however VMA and VMT is much more common.

SDOCT technology has now given us the opportunity to image the vitreoretinal interface as this is hard to see even with high resolution digital photography capability.

The question we must ask is who is a good candidate for treatment, when to intervene, and who can be observed.

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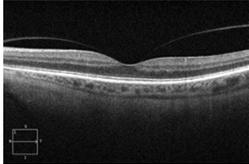


**Vitreomacular Traction/Adhesion**

International Vitreomacular Traction Study (IVTS) Group

Established OCT based anatomic classification system

VMA: perifoveal vitreous separation with remaining vitreomacular attachment and unperturbed foveal morphologic features.



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**Vitreomacular Traction/Adhesion**

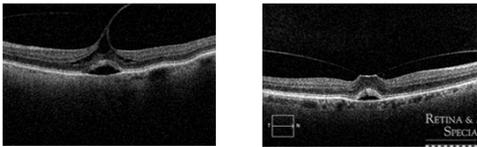
International Vitreomacular Traction Study (IVTS) Group

Established OCT based anatomic classification system

VMT: anomalous posterior vitreous detachment accompanied by anatomic distortion of the fovea

Focal: attachment of 1500 microns or less

Broad: attachment of more than 1500 microns



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**VitreoMacular Adhesion**

FDA Approval of Ocriplasmin (JETREA) – 2012

Commercially available in January of 2013

Ocriplasmin (Jetrea) is a truncated form of human plasmin that has activity against the components of the vitreous body and the vitreoretinal interface (fibronectin, collagen, and laminin)

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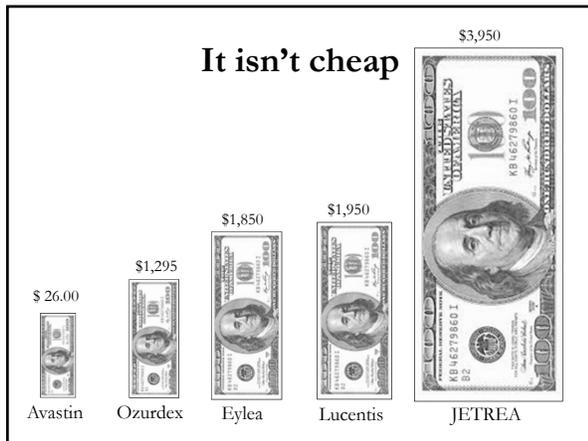
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**But cheaper than surgery...if it works**

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**Side effects**

Injection:  
Irritation, infection, endophthalmitis, bruising, and subconjunctival hemorrhage

Medication:

- Traction-related pathology: edema, macular hole, subretinal fluid
- PVD effects, i.e., retinal tears, detachment
- Lens subluxation

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**Vitreomacular Adhesion**

FDA Approval of Ocriplasmin (JETREA) – 2012  
(Treatment of Symptomatic Vitreomacular Adhesion)

- Intravitreal Injection
- One time treatment per eye (\$3950.00)
- Induction of mechanical PVD by cleavage of traction
- Success rates for release of traction within 28 days was 26.1% as compared to 10.1 % in the placebo group
- Also found to close small macular holes in up to 40.6% of cases as compared to 10% of placebo.

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**Vitreomacular Adhesion**

FDA Approval of Ocriplasmin (JETREA) - 2012

- Success rates for release of traction within 28 days was 26.1% as compared to 10.1 % in the placebo group
- Keep in mind it was a clinical trial that took all variations to VMT, broad attachments, multiple adhesion points and patients with an ERM

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**Vitreomacular Traction/Adhesion**

International Vitreomacular Traction Study (IVTS) Group

“Positive predictors of response with JETREA”

- Focal attachment – less than 1500 microns
- Absence of an epiretinal membrane (ERM)
- VMT with associated macular holes less than 400 microns in size

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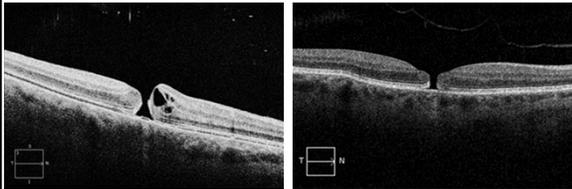
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Full thickness macular holes in the absence of VMT

(Not a candidate for Ocriplasmin)



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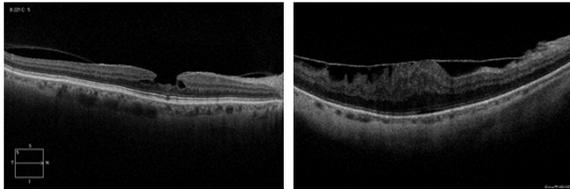
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ERM and Lamellar Macular Holes

(Not a candidate for Ocriplasmin)



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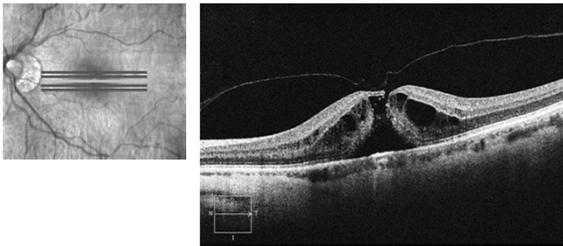
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**Vitreo Macular Traction**



67 year old woman with 4 week history of fluctuating vision referred for retinal evaluation. VA measured 20/60

Treated with JETREA

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### Vitreo Macular Traction

She called later that evening describing “a firework show” and multiple large floaters in her vision. Seen the next morning .....

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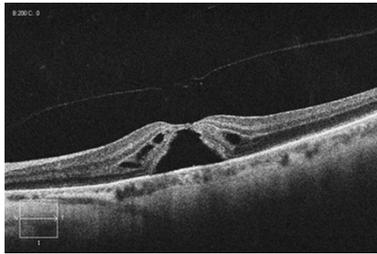
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### Vitreo Macular Traction



On examination a PVD with release of traction was noted. Her vision is now 20/50 with subretinal fluid on OCT.

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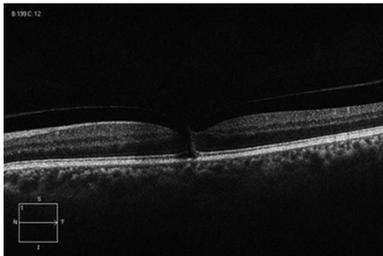
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### Vitreo Macular Traction



70 year old monocular man with 2 week history of blurred vision in his left eye. He was told he needed cataract surgery. VA measured 20/60-2

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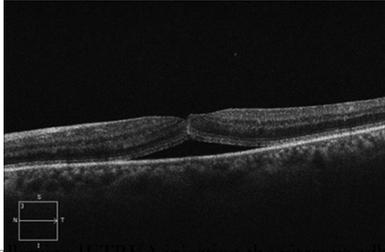
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### Vitreo Macular Traction



2 days following IRT injection the vitreous adhesion has released and a small (stage 2) macular hole was noted on OCT and IRTRE chosen as treatment. He then developed a "firework show" closed although subretinal fluid is seen. Current vision was 20/50

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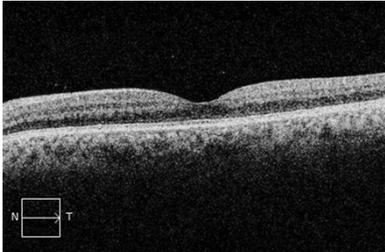
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### Vitreo Macular Traction



The subretinal fluid resolved and the vision improved to 20/30

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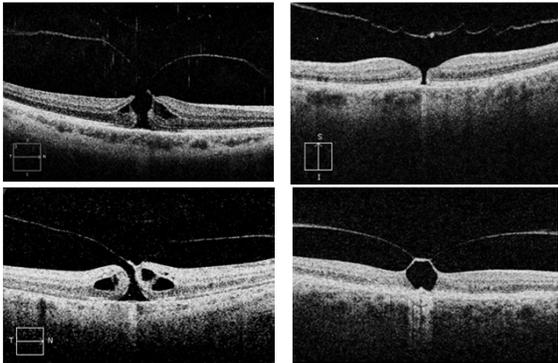
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### Good Candidate or not?



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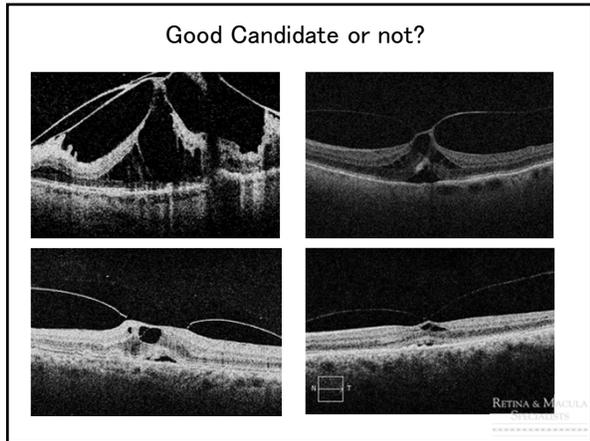
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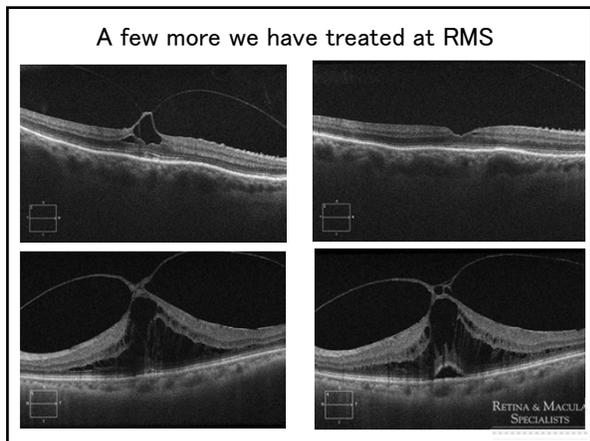
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**Summary**

- So how do we follow these patients??
- Here is my suggestion for patients with “symptomatic adhesion/traction.....
- Initial evaluation reveals symptomatic VMA/VMT. I will discuss the potential complications (ie: macular hole) and educate on the use of a home amsler grid.
- I will then see in 2 weeks and if unchanged then double the follow up interval until it releases or you refer.

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**Summary**

- JETREA can eliminate need for surgery—shift toward medical not surgical retinal care
- High cost with low success rate mandates careful patient selection
- The key is appropriate education and follow up of your patient....
- Develop referral criteria with your retina colleagues...

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