Management of Vitreomacular Adhesion

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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

Vitreomacular Traction/Adhesion

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

We now have another option!

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 in 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).

Vitreomacular adhesion /traction

Symptoms of VMA

Metamorphopsia
Decreased central visual acuity
Macropsia
Central visual field defects
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)

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.

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.

Even experts don’t agree but here are some personal thoughts.

Current study just launched and underway this month.

“Prevalence of Vitreomacular Adhesion in Patients 40 Years and Older”

Funded by:
- Thrombogenics
- Carl Zeiss Meditec
- Opuvue

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.

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
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).

It isn’t cheap

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Cost</th>
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<tr>
<td>Avastin</td>
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<td>Ozurdex</td>
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<td>Eylea</td>
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<td>Lucentis</td>
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<tr>
<td>JETREA</td>
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But cheaper than surgery…if it works

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

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.

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.
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

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

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

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

A small (stage 2) macular hole was noted on OCT and JETREA chosen as treatment. He too developed a "firework show" 2 days following JETREA injection. The vitreous adhesion has released and a PVD was noted clinically. The macular hole is closed though the subretinal fluid current vision was 20/50

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

A few we have treated at RMS
A few more we have treated at RMS

A few more we have treated at RMS

Summary

- JETREA can eliminate need for surgery—shift toward medical not surgical retinal care
- High cost with low success rate mandates careful patient selection

Thank you for having me at your conference in 2014.