Uveitis

WHAT IS VITREOMACULAR TRACTION (VMT)?

The tissue that senses the light inside the eye is the retina, and the retina's center is the macula. The macula is responsible for the central vision, and the cells are organized to give the central vision extra sensitivity. Inside the main body of the

WHAT IS UVEITIS?

The body's immune system is responsible for monitoring and defense against disease. When triggered, the immune system begins a process of reactions resulting in tissue inflammation. These reactions are carried out by different cell types and use many different signal molecules. Inside the eye, the inflammation is located in a vascular layer of the eye wall called the uvea.

ARE THERE DIFFERENT TYPES OF UVEITIS?

Uveitis is characterized by the location, the pattern of cells involved, and the severity. The uveitis can be secondary to an infection of ocular tissues or the immune system mistakenly attacking normal structures as part of an autoimmune disorder. The inflamed part of the eye helps narrow the search for a potential cause.

- Iritis or iridocyclitis - Inflammation to the anterior segment of the eye, the iris, and the ciliary body
- Pars Planitis – Inflammation involving the central portion of the eye
- Retinitis and chorioretinitis- Inflammation to the retina and the layer behind the retina, the choroid
- Scleritis - Inflammation to the wall of the eye
- Panuveitis - Inflammation to all parts of the eye

The types of cells involved in the inflammation affect the visible pattern on examination and can be classified as granulomatous or non-granulomatous inflammation.

HOW IS UVEITIS DIAGNOSED?

Essential for diagnosis is a thorough examination of the eye and medical history. The pattern of inflammation seen dramatically narrows down the numerous causes of uveitis. If the posterior structures of the eye are involved, a Fluorescein Angiogram is performed to evaluate the optic nerve and retinal blood vessels for signs of inflammation. Often an Optical Coherence Tomography (OCT) scan is performed to evaluate and measure any retina swelling. A B-scan ultrasound may be used to assess any inflammation and fluid in the linings of the eye. Based on the exam findings, laboratory workup is undertaken to look for infection signs or an underlying autoimmune disorder. These lab tests are helpful but commonly do not result in a definite diagnosis. They do, however, eliminate particular possibilities that are the most serious.

WHO IS AT RISK FOR UVEITIS?

Uveitis affects people of all ethnicities and all ages. At the highest risk are people with certain underlying autoimmune disorders.

WHAT ARE THE SYMPTOMS OF UVEITIS?

When the eye inflames, the outside often becomes very red and painful. Typically, the pain is described as an ache exacerbated by light and sometimes by eye movements.

While other, less severe conditions can cause redness and aching, a thorough exam should be performed if these symptoms are present to check for uveitis.

HOW IS UVEITIS TREATED?

The mainstay of treating inflammation anywhere in the body is steroids. For the eye, the steroids can be given either locally or systemically. First-line steroids are in the form of topical drops and gels applied to the eye's surface; these have the advantage of adjusting the dose by changing the frequency used easily. The disadvantage is that they poorly penetrate deep ocular tissues and are not as strong as other steroids. Steroids can be injected into the tissue next to the eye if a more potent form is needed, called periocular or sub-tenon's steroids. This delivery method allows for a higher concentration in the eye and sustained effect as the medication is slowly absorbed.

Steroids can be injected inside the eye, called intravitreal injection. This form results in a very high concentration directly to the eye but will not last as long as periocular steroids.

A longer-lasting intraocular steroid is an implant. Ozurdex is a dexamethasone implant injected into the eye and gives a slow-release steroid for up to 3 months. Retisert is a fluocinolone implant that must be inserted using surgery but can slowly release steroids for up to 3 years.

While steroids work very well to control intraocular inflammation, they have significant side effects proportionate to the strength and duration used. Steroids most commonly cause the progression of cataract formation in the eye. The lens in the eye is apparent at birth, and as a natural process of aging begins to become cloudy and block light from entering the eye, this is known as a cataract. With steroid use, the cataract formation is accelerated.

In some patients, steroid treatment can cause an increase in intraocular pressure, known as steroid-induced glaucoma. Elevated intraocular pressure can irreversibly damage the optic nerve. While elevated intraocular pressure can be controlled with medications, severe cases can sometimes require surgery. Most cases of steroid-induced glaucoma will resolve once steroid treatment is ended.

When local steroid therapy is inadequate, systemic steroids are given, mostly orally. Prednisone is the leading medication and controls the immune system throughout the body. Like local steroids, prednisone is very effective at controlling inflammation but has side effects. Systemic side effects include weight gain, insulin resistance, hyperglycemia, osteoporosis, and peptic ulcers. Great care must be taken on systemic steroids to minimize the dosing and limit the side effects. In some patients, the systemic control of the immune system is necessary long-term, and steroid-sparing, immunomodulating medications are used. When these medications are required, a thorough search for an underlying autoimmune condition must be carried out, and often an autoimmune specialist, a Rheumatologist, is consulted.