



British and Éire Association of Medical Retina Specialists

Uveitis

The uvea is divided into three main sections:

1. Anterior Uveitis:

Involves inflammation of the iris (front part of the uvea), and is the most common form of uveitis. It is sometimes called iritis.

2. Intermediate Uveitis:

Affects the ciliary body, which is responsible for producing the eye's fluid and helping to focus the lens. This type is less common and can lead to problems with vision.

3. Posterior Uveitis:

Involves inflammation of the choroid, the part of the uvea responsible for supplying blood to the retina. Posterior uveitis is usually more serious, as it can affect the retina and macula, leading to potential vision loss.

4. Panuveitis:

Involves inflammation of all parts of the uvea — the iris, ciliary body, and choroid. Panuveitis is the most severe and can significantly impact vision if not treated promptly.

Causes of Uveitis

Uveitis can have various causes, including:

1. Infections:

Viral infections: Herpes simplex virus (HSV), cytomegalovirus (CMV), HIV, and tuberculosis can cause uveitis.

Bacterial infections: Conditions like syphilis, tuberculosis, Lyme disease, and toxoplasmosis can lead to uveitis.

Fungal infections: Fungal infections like histoplasmosis can cause posterior uveitis.

Parasitic infections: Parasites like *Toxoplasma gondii* can lead to inflammation in the eye.

2. Autoimmune and Inflammatory Diseases:

Uveitis is often associated with systemic autoimmune diseases, such as:

Rheumatoid arthritis

Ankylosing spondylitis

Crohn's disease

Ulcerative colitis

Sarcoidosis

Behçet's disease

Multiple sclerosis
Juvenile arthritis
Psoriatic arthritis

3. Injury or Trauma:

Direct injury to the eye, such as from surgery, impact, or foreign bodies, can trigger inflammation in the uvea.

4. Medications:

Certain medications, especially those used to treat autoimmune diseases, can increase the risk of developing uveitis. Some medications might also cause uveitis as a side effect.

5. Genetic Factors:

Some individuals are genetically predisposed to developing uveitis, especially those with certain HLA (human leukocyte antigen) types, such as HLAB27.

6. Idiopathic Uveitis:

In many cases, the exact cause of uveitis cannot be identified, and it is considered idiopathic.

Symptoms of Uveitis

The symptoms of uveitis can vary depending on which part of the uvea is affected and the severity of the inflammation. Common symptoms include:

Eye redness: The eye may become red and inflamed, particularly in the front (anterior) part of the eye.

Eye pain: The inflammation may cause mild to severe discomfort, ranging from aching to sharp pain.

Blurred vision: Swelling and fluid accumulation can distort vision.

Sensitivity to light (photophobia): The inflamed eye becomes more sensitive to bright lights, causing discomfort in welllit environments.

Tearing or watery eyes: The eyes may produce more tears than usual.

Floaters: Small spots, lines, or cobweblake shapes that float in the field of vision, often seen in posterior uveitis.

Reduced vision: In severe cases, uveitis can cause significant vision loss, especially if untreated.

Diagnosis of Uveitis

Diagnosis of uveitis involves a thorough eye exam and possibly additional tests, including:

1. Comprehensive Eye Examination:

The eye doctor will examine the eye using specialized equipment to check for signs of inflammation in the anterior or posterior parts of the eye. This often includes slitlamp biomicroscopy (a special microscope to examine the front of the eye) and fundus examination (to check the retina and choroid).

2. Fluorescein Angiography:

A dye is injected into the bloodstream, and photographs of the retina are taken to observe any leakage or abnormal blood vessel growth.

3. Optical Coherence Tomography (OCT):

OCT is used to take high-resolution images of the retina, which can show swelling, fluid accumulation, and other changes related to uveitis.

4. Blood Tests:

Blood tests may be ordered to check for signs of infections, autoimmune diseases, or other systemic conditions that could be causing uveitis.

HLAB27 testing may be done if a condition like ankylosing spondylitis or other related disorders is suspected.

5. Fundus Photography:

This is used to document changes to the retina, which is particularly important for posterior uveitis.

6. Intraocular Pressure Measurement:

The doctor will measure the pressure inside the eye (intraocular pressure or IOP) to check for glaucoma, which is a potential complication of uveitis.

7. Specialized Tests for Infections:

If an infection is suspected, tests for specific pathogens (e.g., syphilis, tuberculosis, or HIV) may be performed.

Treatment of Uveitis

Treatment for uveitis depends on the underlying cause, the type of uveitis (anterior, intermediate, posterior, or panuveitis), and the severity of the inflammation. Common treatment options include:

1. Corticosteroids (Steroids):

Topical steroids: These are eye drops used to treat anterior uveitis and reduce inflammation.

Systemic steroids: Oral corticosteroids or intravenous steroids may be used for more severe cases or if the inflammation is affecting deeper parts of the eye.

Intravitreal steroids: Steroids may be injected directly into the eye if inflammation is affecting the posterior part of the eye.

2. Immunosuppressive Medications:

If uveitis is caused by an autoimmune condition or if steroid therapy is not effective, medications that suppress the immune system (such as methotrexate, azathioprine, cyclophosphamide, or mycophenolate mofetil) may be used.

3. AntiVEGF Injections:

For posterior uveitis, particularly when abnormal blood vessels are involved, antiVEGF (vascular endothelial growth factor) injections like Lucentis (ranibizumab) or Eylea (aflibercept) may be used to reduce inflammation and prevent the formation of new blood vessels.

4. Antibiotics, Antivirals, or Antifungals:

If an infection is identified as the cause of uveitis, treatment with antibiotics, antivirals, or antifungal medications will be necessary to control the infection.

5. Dilating Eye Drops:

Cycloplegic or mydriatic eye drops may be prescribed to dilate the pupil and prevent pain caused by muscle spasms in the eye, as well as to reduce the risk of developing synechiae (abnormal adhesions between the iris and the lens).

6. Surgical Intervention:

In some cases, surgical treatment may be necessary if there is damage to the retina, such as retinal detachment or cataracts, which may develop as a complication of chronic uveitis.

Complications of Uveitis

If left untreated or poorly managed, uveitis can lead to several serious complications, including:

Glaucoma: Elevated intraocular pressure can result from longterm inflammation, leading to damage to the optic nerve and vision loss.

Cataracts: Longterm inflammation or corticosteroid use can lead to the development of cataracts.

Retinal Damage: In severe cases, especially with posterior uveitis, the retina can be damaged, leading to vision impairment or blindness.

Macular oedema: Swelling in the central part of the retina (the macula) can cause blurred or distorted central vision.

Optic Nerve Damage: Chronic inflammation can damage the optic nerve, leading to permanent vision loss.

Prognosis

The prognosis for uveitis depends on the underlying cause, the type of uveitis, the extent of the inflammation, and how early the condition is treated. With early diagnosis and appropriate treatment, many people with uveitis can achieve good control of the inflammation and prevent permanent vision damage. However, chronic uveitis or recurrent episodes may increase the risk of complications, including vision loss.

Conclusion

Uveitis is a potentially serious condition that requires prompt medical attention to prevent complications and preserve vision. Treatment typically involves controlling inflammation with medications, addressing any underlying systemic conditions, and monitoring for complications. Regular followup with an eye care professional is crucial for managing uveitis and ensuring longterm eye health.