AMERICAN UVEITIS SOCIETY

Sympathetic Ophthalmia

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Introduction

Sympathetic ophthalmia (SO) is an inflammatory condition that affects both eyes. SO occurs after a penetrating injury to one eye. With rare exceptions, the injury involves a penetrating wound resulting from trauma or surgery. The injured eye is termed the "exciting" eye and the non-injured eye is referred to the "sympathizing" eye. A century ago, the reported incidence of SO was about 2% following injury to one eye. Only rare cases were reported during World Wars I and II. In the 1980s, one or two of every 1000 penetrating ocular traumas were reported as resulting in SO. In 2000, a group in the United Kingdom and Republic of Ireland estimated that three out of every 10,000,000 cases of penetrating injury or surgery resulted in SO. It is thus obvious that the incidence of SO is extremely low.

History

Sympathetic ophthalmia was known to Hippocrates over 2000 years ago. The first written reference to sympathetic ophthalmia appeared about 1000 A.D. stating that "[t]he right eye, when diseased, often gives suffering to the left." In the 16th century, Bartisch wrote in his textbook of ophthalmology that after injury in one eye, "the other good eye is in great danger." The term sympathetic ophthalmia was coined by William MacKenzie in 1840. He presented 6 cases of penetrating wounds in one eye with development of inflammation in the other eye within three weeks to one year. In 1905, Ernest Fuchs described the classical microscopic findings in SO. Since then the disease has became well recognized in ophthalmology.

Course of Disease

SO is manifested by a gradual onset with a progressive course marked by frequent periods of worsening. The time between the injury in the "exciting" eye and the onset of SO ranges from 5 days to 66 years. Approximately two-thirds of SO cases occur within the period of two weeks to two months following injury, with 90% occurring within the first year. Usually patients notice blurry vision and pain in both eyes without other symptoms outside the eyes. Eye examination usually shows red and painful eyes with a swollen middle layer of the eye (uvea).

Diagnosis and Testing
There are no tests that can tell an eye doctor without a doubt that a patient has SO. However, a history of eye injury or surgery combined with the finding of inflammation in both eyes raises SO as a possible diagnosis. The eye doctor will obtain a complete history and perform a careful examination of the eyes, including tests of vision, eye pressure, and inflammation in the eye, using special instruments which magnify the dilated eyes under bright light. Special testing such as fluorescein angiograms, indocyanine green angiography, or ultrasound may be performed. The eye doctor will likely obtain blood tests and a chest X-ray to ensure that other diseases which may look similar to SO are not present. Some of these include Vogt-Koyanagi-Harada disease, sarcoidosis, intraocular lymphoma, and the white dot syndromes (please see the separate monographs on these topics).

Treatment
The main treatment for SO is aggressive anti-inflammatory administration. Corticosteroids are the most common agent used initially. Prompt and adequate dosage is required to achieve control. Some patients may require admission to the hospital to receive medications through their veins. SO can be a difficult disease to treat and may require additional therapy, including the use of more than one immunosuppressive medication.

Cause of Condition
While the cause of SO is not yet completely understood, most scientists believe that the disease is caused by an attack mounted by the patient's own immune system against certain parts of the eye tissue, possibly the uvea and/or retina. Some scientists think that certain germs or microorganisms may play a role in the cause of SO.

Prognosis
SO remains a serious disease that may result in a very poor visual outcome without therapeutic intervention. Some studies suggest that SO may be more aggressive in African Americans. When diagnosed early and treated appropriately, patients with SO have a good chance of retaining useful vision.

Research and Future Outlook
Current research efforts for SO are to find the exact cause of the disease and to determine the best treatment protocols to control the disease rapidly and preserve sight with the added benefit of preventing recurrent attacks. Today, with prompt diagnosis and early and sufficient anti-inflammatory treatment, the prognosis of SO is better and is no longer a blinding disease. In the future , with advances in understanding of its etiology and pathogenesis, SO will be completely prevented and only recorded in medical history.