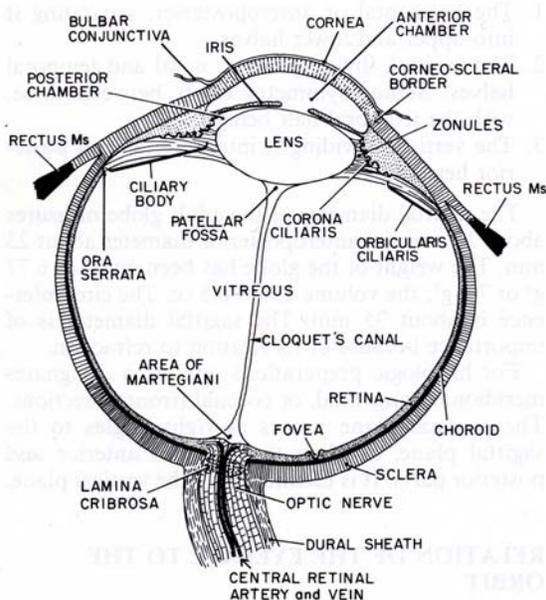


What You Should Know About Lamellar Macular Holes

By David J. Browning, MD, PhD

The lining of the back of the eye is called the retina, and is shown in figure 1. The retina is nerve tissue that converts the focused light entering the eye through the pupil into a nerve signal that travels to the brain via the optic nerve. The central part of the retina is called the macula. In the macula, the finest vision is achieved. The macula subserves reading and recognition of faces. The internal cavity of the eye is filled with a viscous gel-like substance called vitreous humor, which is attached to the retina early in life. With age, the vitreous begins to contract, and sometimes the traction of the vitreous on the macula leads to a cyst (figure 2). If the front or back wall of the cyst breaks, the situation is termed a lamellar macular hole (figure 3). Lamellar means partial thickness.

Figure 1. Anatomy of the Human Eye



What are the Symptoms of a Lamellar Macular Hole?

Patients with a lamellar macular hole complain that objects seem distorted. Straight lines, such as the edge of a door, seem bent. In reading a word, a letter or two may drop out. There is no pain associated with the problem, and it generally does not progressively get worse. On the eye chart, the visual acuity may be as good as 20/20 or as bad as 20/100, but the average is 20/40.

What is the Treatment?

Unlike the related condition of a full thickness macular hole, surgery is not helpful in a lamellar macular hole. Rarely a lamellar macular hole progresses to a full thickness macular hole, and if this occurs, an operation called vitrectomy can be performed to repair the problem. A gas bubble placed inside the eye during the operation is used to help the edges of the full thickness hole approximate to each other as healing takes place.

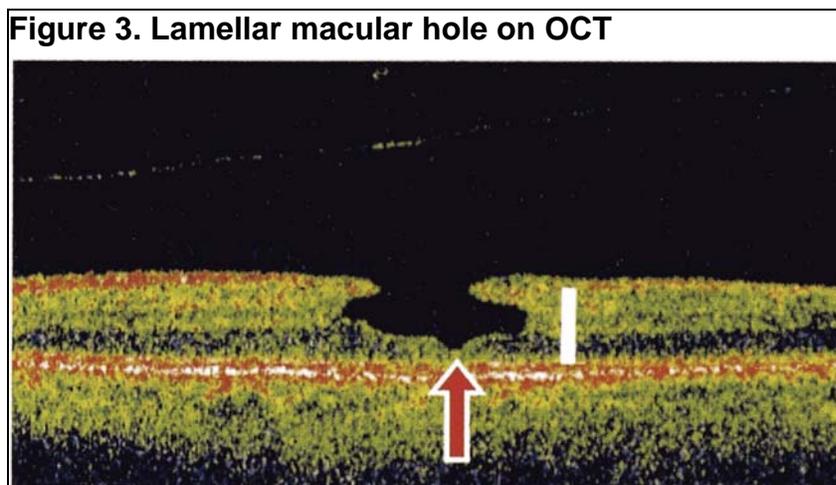
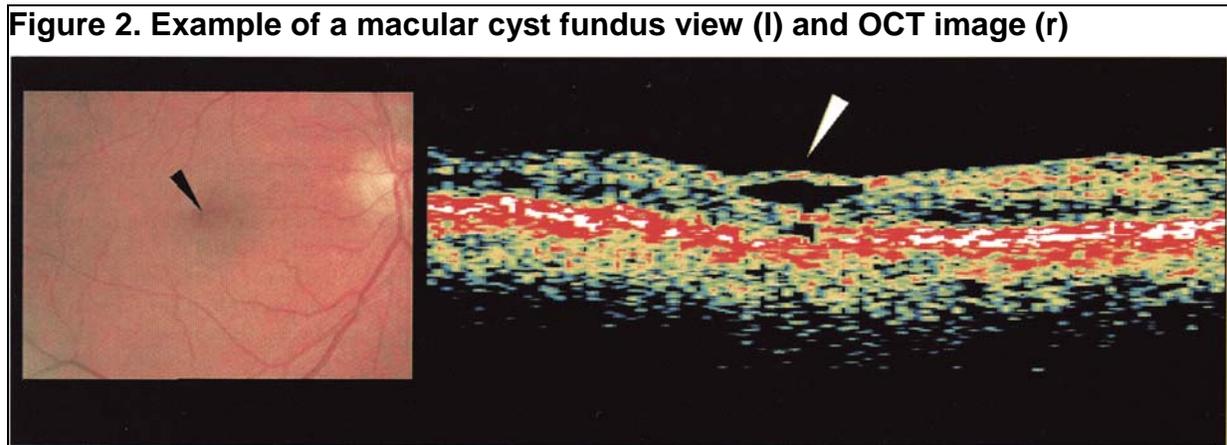
Another Masquerader

Occasionally a lamellar macular hole is confused with a condition called pseudo-macular hole. In a pseudo-macular hole, an added layer of scar tissue grows on the surface of the retina and over time begins to contract, bunching the retina into

folds, and forming a round napkin-ring appearance to the macular surface that can resemble a lamellar macular hole. If the symptoms are severe enough to warrant intervention, vitrectomy surgery can be helpful in removing the scar tissue and resolving the problem.

Making the Diagnosis

Besides the examination by the ophthalmologist, two tests may be recommended to help clarify the diagnosis. Optical Coherence Tomography (OCT) is a type of picture in which a cross section of the retina is produced. Figures 2 and 3 are examples. Sometimes a series of pictures called a fluorescein angiogram can help make the diagnosis. In this test, a plant-based dye is injected into a vein of the arm and a series of photographs are taken. The passage of the dye through the retinal vessels can sometimes help in distinguishing a full thickness macular hole, which appears slightly whiter than its surroundings, from a lamellar macular hole, which does not.



Final Comments

Making the correct diagnosis is important, because proper treatment differs for these conditions. Surgery may be helpful in full thickness macular hole and pseudo-macular hole, but is not helpful in lamellar macular hole. Although the symptoms of lamellar macular hole can be annoying, they usually do not progress. Occasionally the same thing can happen to the fellow eye.

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