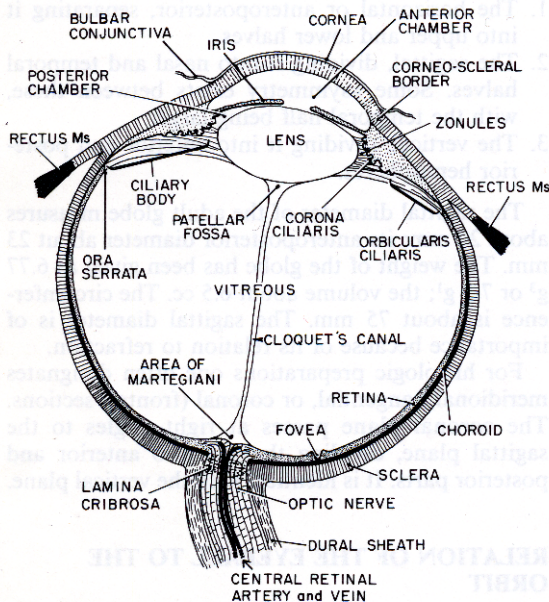


What You Should Know About Optic Disc Drusen

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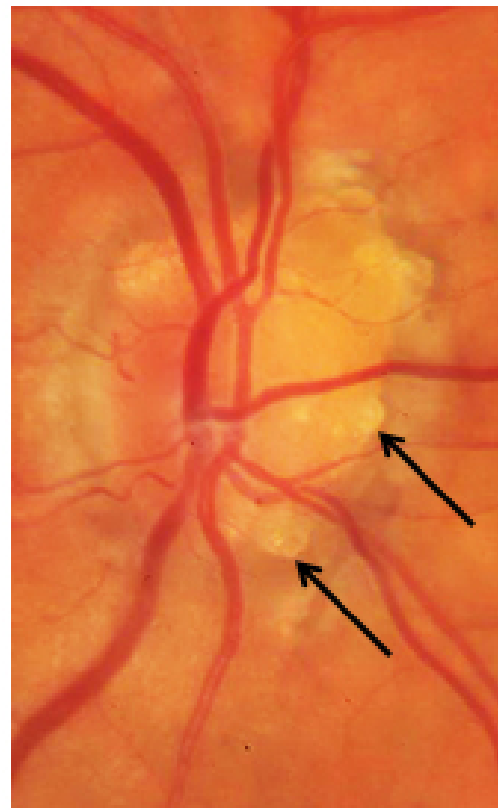
Optic disc drusen are calcified deposits found within the most anterior part of the optic nerve. The optic nerve connects the eye to the brain. The optic nerve inserts into the back of the eyeball as shown in the anatomic diagram in figure 1. The insertion of the nerve into the back of the eye is called the optic disc. This disc usually has a small indentation called the optic cup (fig. 2, green arrow). Persons

Figure 1. Anatomy of the Human Eye



with optic disc drusen usually have small or absent optic disc cups (fig. 3). In fig. 3, the optic disc drusen are yellow excrescences indicated by the black arrows. These are obvious, but sometimes buried optic disc drusen can only be visualized by ultrasound or optical coherence tomography, which are ancillary tests done in the ophthalmologist's office.(1;1;2) Buried optic disc drusen are more common in children, and over time tend to become more obvious to examination.

Figure 2 Normal Optic Disc **Figure 3 Optic Disc Drusen**



Optic disc drusen are found in approximately 1% of persons and usually cause no visual problems although they can be associated with some loss of visual field and may be associated with growth of abnormal blood vessels under the retina adjacent to the optic disc. In these cases injections of drugs such as bevacizumab can render the vessels inactive. In some cases laser treatment is recommended to destroy the vessels by cautery.

Sometimes optic disc drusen can be mistaken for swelling of the optic disc due to increased intracranial pressure.(3) If this mistake occurs, needless and expensive brain scans may be ordered. Thus, an awareness of the different appearance of optic disc drusen from optic disc edema is important.

What Can Be Done for Optic Disc Drusen?

For patients with optic disc drusen and no visual symptoms, nothing needs to be done other than periodic monitoring. Occasional visual field testing is probably a good idea, because an increasing proportion of patients will develop visual field defects over the years, especially nasally. Patients may be advised to check an Amsler Grid

at home. Seeing distortion is a sign of fluid developing under the retina secondary to abnormal blood vessel growth adjacent to the optic disc and should prompt a visit to the ophthalmologist to check.

In almost all patients, optic disc drusen is compatible with reading and driving vision throughout a lifetime.

If you are interesting in finding more information on your own, we recommend the database of the National Library of Medicine, accessible at www.Pubmed.com.

Reference List

- (1) Merchant KY, Su D, Park SC, Qayam S, Banik R, Liebmann JM et al. Enhanced depth imaging optical coherence tomography of optic nerve head drusen. *Ophthalmology* 2013; 120:1409-1414.
- (2) Lee KM, Woo SJ, Hwang JM. Morphologic characteristics of optic nerve head drusen on spectral-domain optical coherence tomography. *Am J Ophthalmol* 2013; 155:1139-1147.
- (3) Johnson LN, Diehl ML, Hamm CW, Sommerville DN, Petroski GF. Differentiating Optic Disc Edema from Optic Nerve Head Drusen on Optical Coherence Tomography. *Arch Ophthalmol* 2009; 127:45-49.

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