

Screening for Glaucoma in Family Practice

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Glaucoma, as the leading cause of preventable blindness in the United States, is underrecognized; when recognized, it is often treated too late in the course of the disease to alter its effects. In 1977, there were an estimated 1.5 million people being treated for glaucoma in this country, including over 1.1 million with some form of visual impairment and 60,000 legally blind people. There are probably some 90 million people at risk for this disease in the United States.¹

Effective large-scale screening for glaucoma is, therefore, needed if this disease is to be detected and controlled for the population. In the past, screening has relied principally on tonometry, usually involving the Schiøtz tonometer. As the sole screening method, however, tonometry has two basic drawbacks:

1. There are six or seven people in the population with confirmed abnormal ocular pressure (over 21 mmHg) but without glaucoma (ie, with ocular hypertension) for every patient with glaucoma (ie, with glaucomatous visual field changes)

2. It has been well documented that up to 50 percent of people with ocular pressures less than 21 mmHg have glaucomatous visual field changes¹

In an effort to identify more effective and readily available screening strategies for glaucoma, the National Society to Prevent Blindness sponsored a national conference last year involving interested ophthalmologists, primary care physicians, medical educators, and others. The *Proceedings* of this conference^{1*} provide an excellent addition to the primary care physician's library on glaucoma. Among the recommendations of this conference are the following:

1. Ophthalmoscopy is the most sensitive and accurate early screening method for glaucoma, and should be coupled with tonometry for screening purposes.

2. Visual field testing should be done for all patients with ocular hypertension.

3. Referral to ophthalmologists is indicated for patients with ocular hypertension or suspicious glaucomatous cup changes, so that careful visual field testing or other special studies (eg, gonioscopy) can be done.

*Available on request from the National Society to Prevent Blindness, 1990 M Street, NW, Suite 360, Washington, DC, 20036.

4. Special attention must be given to screening for glaucoma in high risk populations, including diabetics, people with a family history of glaucoma, people with severe myopia, and blacks.

A second national conference is being conducted this month by the National Society to Prevent Blindness; the *Proceedings* of this conference will also be available, and will include more specific recommendations for screening approaches (eg, age, frequency).

Two papers in the current issue of this journal focus on different aspects of this subject. Campos-Outcalt and Carmichael present a current and definitive view of approaches and problems in screening for glaucoma based upon the pathophysiology and epidemiology of the problem.² Tucker reports the results of a recent survey of US family practice residencies concerning their actual glaucoma screening practices. The findings of this study reveal that one third of the programs are not screening routinely for glaucoma, while a larger number of programs are inconsistent in their screening approaches, especially for high risk individuals, and still rely primarily on tonometry as the principal screening technique.³

Family practice has the opportunity and capability to address the glaucoma screening problem in several practical ways. The following approaches seem reasonable and readily achievable:

Undergraduate Education

Since only about one third of US medical students take an ophthalmology clerkship and an increasing number take family practice clerkships, it would be helpful for programmed teaching on glaucoma screening to be included in family practice clerkships, including the use of ophthalmoscopy and tonometry.*

Graduate Education

Every resident's experience and training in the family practice center and/or on the ophthalmology service should include all aspects of the glaucoma screening problem, including specific competency testing in ophthalmoscopy (possibly including audiovisual examples of "unknown" fundoscopic findings) and tonometry.

Continuing Medical Education

Additional teaching in these areas could easily be introduced into the periodic continuing medical education programs offered by the American Academy of Family Physicians at county, state, and national levels, as well as by family practice residencies and medical school departments of family practice.

Patient Care

Practicing family physicians in both teaching and nonteaching settings can readily update their office protocols for the use of ophthalmoscopy and tonometry. Advances in the development of new methods for visual field testing may eventually make this procedure feasible for teaching settings and family practice groups.

Such a coordinated approach by a major primary care discipline has the potential to improve the care of patients with glaucoma far beyond what has been possible to date.

*Two self-learning resources are recommended to describe glaucoma screening methods and illustrate glaucomatous cupping of the optic disc:

1. Ophthalmology Study Guide for Students and Practitioners of Medicine, ed 3, 1978. Available from American Academy of Ophthalmology and Otolaryngology, 1833 Fillmore Street, PO Box 7424, San Francisco, CA 94120. (This is an excellent 165-page self-learning manual including a useful section on glaucoma detection with suggested references, microfiche illustrations, and patient management problems.)
2. Self-learning program on ophthalmoscopy, including guidebook and slides; available from the National Audiovisual Center (GSA), Attention: Order Section, Washington, DC 20409 (purchase price: \$90.50)

References

1. Glaucoma detection and treatment. Proceedings of the First National Glaucoma Conference, Tarpon Springs, Florida, January 1980. Washington, DC, National Society to Prevent Blindness, 1980
2. Campos-Outcalt D, Carmichael JM: New perspectives on glaucoma screening. *J Fam Pract* 12:451, 1981
3. Tucker JB: Glaucoma detection in family medicine residencies. *J Fam Pract* 12:565, 1981