Glaucoma Therapy: Compliance, Adherence, Persistence, and Alliance

Understanding the terminology and addressing the issues it represents.

BY GEORGE SHAFRANOV, MD

Compliance is often defined as how well patients follow physicians' recommendations. Recently, this term has acquired a negative meaning that suggests we physicians decide which medications patients should use and patients passively use them as prescribed. This article discusses some of the terms proposed to replace the word *compliance* to describe how patients use glaucoma medication. It also presents strategies for encouraging patients' participation in managing chronic disease.

UNTANGLING TERMINOLOGY

Recently, clinicians have substituted the less judgmental word *adherence* for *compliance* in glaucoma therapy.[1,2] The former term implies that patients have some control over how they use their medications and that they will use them willingly, either because they have an understanding of their disease or because they simply believe treatment is appropriate. For instance, patients with type A personalities may be more likely to adhere to a medical regimen if they believe it is important to prevent glaucoma from damaging their vision. Adherence also acknowledges that patients must overcome real barriers, such as restrictions imposed by insurance companies' preferred formularies, to use their glaucoma medicine effectively.

Another way to track compliance is by measuring *persistence* (eg, how long patients use their glaucoma eye drops regularly without periodic discontinuation). Persistence with glaucoma medications is generally considered to be poor, with studies reporting that fewer than 25% of patients use their eye drops continuously for 12 months.[3] Individual patients' persistence may also fluctuate over time.

Alliance is the ultimate form of compliance. The word suggests that patients, physicians, family members, and everyone else involved in the management of an individual's glaucoma collaborate to ensure the proper use of medication.[4,5]

> "To what degree does noncompliance affect the treatment of glaucoma?"

In essence, all these terms pertain to patients' instilling IOP-lowering eye drops as prescribed. For this reason, and to eliminate the confusion caused by the use of multiple terms, the remainder of this article will describe patterns of medicine use by glaucoma patients as *compliance.*

DOES COMPLIANCE MATTER IN GLAUCOMA?

Many of us believe that compliance is one of the most significant challenges of medical glaucoma management. It is therefore logical to assume that noncompliance is one of the main reasons for the progression of this disease. To what degree does noncompliance affect the treatment of glaucoma, however? Although one study demonstrated that noncompliant patients exhibited higher IOPs and more advanced visual field loss compared with compliant patients,[6] a recent review of the literature demonstrated that the effect of noncompliance on the long-term outcomes of patients with ocular hypertension or glaucomatous progression still is unclear.[7]

Knowing whether patients are taking their medication

regularly is important. If we do not detect patients' poor compliance, we may believe their current eye drops are not effective and change their medication. Acting on this incorrect conclusion may shake our patients' confidence in us if they decide we cannot choose the right medication to treat their glaucoma.

> "It is helpful to ask patients to demonstrate how they instill their glaucoma drops and, if necessary, to teach them proper techniques such as nasolacrimal occlusion."

In other instances, some patients use their eye drops only for a few days before scheduled follow-up visits. As a result, we may incorrectly diagnose normal-tension glaucoma if their IOPs appear normal but their disease has progressed since their last visit.

Patients who completely stop using their eye drops present a different challenge. After we prescribe all the available medications, none of which seems to lower their IOP, we may proceed to surgery, with its risk of complications.

HOW COMMON IS NONCOMPLIANCE?

Several published studies suggest that medical compliance among glaucoma patients is poor and that between 20% and 66% of them do not use their medication as prescribed.[8] The prevalence of noncompliance may vary depending on the patient's age, systemic and economic conditions, level of education, understanding of glaucomatous progression, motivation, and confidence in his doctor. The complexity of the therapeutic regimen also plays an important role in compliance.

As physicians, we need to recognize the factors that contribute to noncompliance and discuss them with patients.

MEASURING COMPLIANCE

Few of the techniques we use to assess compliance with glaucoma treatment are reliable. Suggestions include using patients' own reports, distributing questionnaires,[9] installing electronic monitors,[10,11] and tracking patients' use of medication through pharmacy records.[12] In one study, data from electronic monitors placed in medicine bottles suggested that patients often overreport their level of compliance to their doctors.[11] Another study demonstrated that electronic monitoring devices may not record all instilled drops accurately.[10]

Even if patients tell us what they believe to be the truth about how they use their glaucoma drops, they rarely admit to noncompliance. Others may underestimate how many doses of a prescribed therapeutic regimen they actually used.

CAN WE IMPROVE COMPLIANCE?

The literature describes dozens of different barriers to compliance with glaucoma therapy as well as many strategies for overcoming them.[13,14]

Without proper education, many patients might use IOP-lowering eye drops incorrectly. It is helpful to ask patients to demonstrate how they instill their glaucoma drops and, if necessary, to teach them proper techniques such as nasolacrimal occlusion. Even advising patients to keep their eyes closed for a few minutes after instilling eye drops may make a difference.

Some patients may be confused by a complicated dosing regimen or find it difficult to add topical eye drops to a host of medications they take for systemic diseases. Sometimes, discontinuing one of multiple drugs may improve a patient's compliance and result in better controlled IOP.

Other factors linked with noncompliance include forgetfulness (usually the main reason)[15,16] and the frequency of administration. Theoretically, a patient who needs to use eye drops once or twice a day is less likely to miss a dose than one who needs to use eye drops four to six times a day. Medications that require once-daily dosing may also offer an advantage because their IOP-lowering effect lasts for at least 24 hours. A recent study[17] demonstrated that skipping a dose of a prostaglandin analog caused no detectable change in nocturnal IOPs and increased IOPs by only 1.0 to 1.5 mm Hg during the day.

Low-income or uninsured patients' abilities to pay for expensive medications may affect their compliance with glaucoma therapy. These patients may benefit from enrolling in assistance programs sponsored by pharmaceutical companies. A list of programs and the medicines they cover is available from the AGS' Web site at http://www.glaucomaweb.org/displaycommon.cfm?an=2.

Finally, some older patients may have difficulty instilling their eye drops properly because they cannot open or squeeze the bottle. We can help these patients by supplying dosing aids or by teaching patients' family members to administer IOP-lowering eye drops.

We can further improve our patients' compliance with glaucoma therapy by adopting a friendly attitude and building strong relationships with patients and their relatives, caretakers, and friends.

CONCLUSION

When discussing compliance with our patients, we should always choose our words wisely. If we are not careful, the questions we ask may give patients the idea that we automatically assume they are noncompliant. We need to reassure patients that they can admit if they occasionally miss doses of their glaucoma medications. Most importantly, we need to be aware that no single strategy will solve all problems with compliance. Instead, we must tailor our approach to help individual patients.

Improving compliance neither solves all the problems associated with glaucoma therapy, nor is it equal to successful treatment. Getting patients to use their medications as directed just helps them achieve better control over their IOP. Even a patient who is 100% compliant still needs careful structural and functional analysis and possible changes in the management of their glaucoma. ❑

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1. Osterberg L, Blaschke T. Adherence to medication. *N Engl J Med.* 2005;353:487-497.
2. Tilson HH. Adherence or compliance? Changes in terminology. *Ann Pharmacother.* 2004;38:161-162.
3. Schwartz GF. Compliance and persistency in glaucoma follow-up treatment. *Curr Opin Ophthalmol.* 2005;16:114-121.
4. Aquila R, Weiden PJ, Emanuel M. Compliance and the rehabilitation alliance. *J Clin Psychiatry.* 1999;60(suppl 19):23-27.
5. Blackwell B. From compliance to alliance. A quarter century of research. *Neth J Med.* 1996;48:140-149.
6. Konstas AG, Maskaleris G, Gratsonidis S, et al. Compliance and viewpoint of glaucoma patients in Greece. *Eye.* 2000;14(Pt 5):752-756.
7. Olthoff CM, Schouten JS, van de Borne BW, et al. Noncompliance with ocular hypotensive treatment in patients with glaucoma or ocular hypertension: an evidence-based review. *Ophthalmology.* 2005;112:953-961.
8. Omoti AE, Ukponmwan CU. Compliance with new drugs in glaucoma therapy in Benincity, Nigeria. *Seguimiento Farmacoterapéutico.* 2005;3:135-143.
9. Sleath B, Robin AL, Covert D, et al. Patient-reported behavior and problems in using glaucoma medications. *Ophthalmology.* 2006;113:431-436.
10. Boden C, Sit A, Weinreb RN. Accuracy of an electronic monitoring and reminder device for use with travoprost eye drops. *J Glaucoma.* 2006;15:30-34.
11. Kass MA, Meltzer DW, Gordon M. A miniature compliance monitor for eyedrop medication. *Arch Ophthalmol.* 1984;102:1550-1554.
12. Wilensky J, Fiscella RG, Carlson AM, et al. Measurement of persistence and adherence to regimens of IOP-lowering glaucoma medications using pharmacy claims data. *Am J Ophthalmol.* 2006;141(1 suppl):S28-S33.
13. Tsai JC, McClure CA, Ramos SE, et al. Compliance barriers in glaucoma: a systematic classification. *J Glaucoma.* 2003;12:393-398.
14. Smith VA, DeVellis BM, Kalet A, et al. Encouraging patient adherence: primary care physicians' use of verbal compliance-gaining strategies in medical interviews. *Patient Educ Couns.* 2005;57:62-76.
15. Patel SC, Spaeth GL. Compliance in patients prescribed eyedrops for glaucoma. *Ophthalmic Surg.* 1995;26:233-236.
16. Lehto I. Side effects of topical treatment in pigmentary glaucoma. *Acta Ophthalmol (Copenh).* 1992;70:225-227.
17. Sit AJ, Weinreb RN, Crowston JG, et al. Sustained effect of travoprost on diurnal and nocturnal intraocular pressure. *Am J Ophthalmol.* 2006;141:1131-1133.

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