First do no harm” is the dictum by which all physicians should try to live when treating patients with glaucoma. The ideal medication is one that maximally lowers IOP, requires infrequent dosing, and has no local or systemic side effects. Obviously, there is no such medication, but wouldn’t it be nice? Choosing the best IOP-lowering drug for your patients is a two-step process. First, you try to select the best medication for each individual. Second, after he or she is using the medication, you must confirm that it is indeed the best choice. Adverse events, even minor ones such as itching or burning, may prompt your patient to discontinue therapy.

**PICKING THE BEST MEDICATION**

**History**

Obtain a complete and accurate medical history, including a review of systems. Part of this process includes observing the patient. If he or she exhibits strenuous breathing, wheezing, or obvious pedal edema, avoid systemic ß-blockers. Perform simple tests. If you are about to prescribe a ß-blocker or a fixed-combination medication containing a ß-blocker, checking the patient’s heart rate can help you avoid a serious blunder.

When taking a history, look for contraindications to ß-blockers or systemic carbonic anhydrase inhibitors. Does the patient have chronic obstructive pulmonary disease or asthma? Does he or she have diabetes that is not controlled? Is there a history of depression or somnolence? Is the patient taking systemic medications that may have cross-reactivity? Is he or she allergic to specific classes of medications? Systemic sulfia allergies seem to be a specific case.\(^1\,2\) There is little documentation that an allergy to a systemic sulfia drug can induce allergies to a topical sulfia medication. The former is usually indicative of a person’s tendency to be sensitive to other medications.\(^3\,4\)

**Communication**

Selecting a medication is not a simple algorithm but is instead based upon effective doctor-patient communication (as well as clear discussion by your entire staff). Ask patients about their social and business schedules. Is the dosing schedule of the medication you are considering conducive to adherence? If the patient takes most of his or her other medications in the morning, remembering to take a prostaglandin analogue in the evening may be difficult. Perhaps prescribing the prostaglandin analogue for the morning would work better. Could increased pigmentation of the eyelids or conjunctival hyperemia negatively affect the patient’s livelihood (eg, a career in sales)? If so, you might want to avoid α-agonists and prostaglandins as initial therapies.

In today’s economy, the cost of medical therapy is a significant factor. The individuals who ask for samples are not always the poorest in your population. Patients may be embarrassed to tell you that they cannot afford a drug. Ask patients if they can afford the brand name or a specific class of medication. Bear in mind that generic equivalents are not always less expensive than their branded counterparts. Some glaucoma medications (eg, timolol maleate), however, are on the $4/month supply list at some large pharmaceutical retailers.

**Simplified Dosing**

Simplicity is key! When prescribing an initial medication (or when adding a medication), the simplest dosing schedule has the best chance of success.\(^5\,6\) Medications dosed once daily are generally a better choice than those administered two or three times daily, and patients’ adherence is higher with a single drug than with two or more.\(^7\,9\) If appropriate, start patients on a once-daily medication (prostaglandin analogue or nonselective ß-blocker).

**Capability**

Someone with crippling arthritis will find it difficult or impossible to instill a drop. Never forget to ask patients if they are capable of administering their drops before you begin the prescribing process. Evaluate each patient’s ability to self-administer a medication. If he or she is forgetful or is taking a plethora of other medications for diabetes, systemic hypertension, chronic obstructive pulmonary disease, and hormonal...
replacement therapy, adding multiple ophthalmic medications may not be a wise choice. Even patients who appear relatively healthy may use multiple medications that have complex dosing patterns. Do not forget to inquire about over-the-counter medications. Patients’ use of vitamins, fish oils, and multiple nutraceuticals probably affects whether they will be able to administer a topical glaucoma drop consistently.

ASSESSING THE MEDICATION AT FOLLOW-UP

Communication

If you or your staff members do not ask about problems with adherence, patients may never admit to difficulties in this area. Do not assume that a fear of blindness alone will keep a patient on his or her prescribed therapy.

Side Effects

Because many patients do not consider their eye drops to be “real” medications, they may not associate adverse events they are experiencing with these drugs. Ask them about their ocular comfort and inquire about any typical side effects. If they are using a prostanoid analogue, ask about hyperemia and changes to their eyelids and eyelashes. For a β-blocker, measure their heart rate and inquire about their breathing, signs of congestive heart failure, fatigue, depression, and impotence. For an α-agonist, question patients about fatigue, allergic symptoms, and hyperemia. Finally, for a topical carbonic anhydrase inhibitor, ask about blurred vision, stinging, a bad taste in their mouth, and allergy.

Storage

Find out how patients are storing their medications. This is most important when they are using topical drops not preserved with benzalkonium chloride because of potential contamination.

Supply

Again, ask patients if they can afford their medication so that you can prescribe an alternative, if need be. Inquire how many bottles of the drug they required and whether they ran out before they could refill their prescription. It is not unusual for patients to run through a month’s supply of medication in 2 weeks due to unintentional waste or the accidental administration of more than one drop at a time. The pharmacy will tell these individuals that their insurance company will not permit refills except at full price, so these patients may discontinue therapy until the refill is covered.

Instillation

Ask your patients if they can administer their drops and how often they do so. Request that they bring their medication to their follow-up appointments. In addition to verifying the drug they are using, ask patients to demonstrate their administration of the medication. A surprising number will have great difficulty opening the bottle and will be unable to get the drop onto their eye. In these cases, you may want to ask a family member to help the patient, or you may want to try to teach the patient how to administer the drop. These approaches, however, may not succeed.

CONCLUSION

By asking questions, you will get to know your patients, what will help each of them to adhere to prescribed glaucoma medical therapy, and what may be compromising their efforts. Observation is the best way to know if patients are capable of instilling their drops, and it may offer an important explanation of why therapy has failed to achieve the target IOP.

A video reflecting some of Dr. Robin’s observations of experienced patients placing drops on their eyes is available at http://eyetube.net/?v=sewam.

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