CME CREDIT

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BRIEF QUESTIONS AND ANSWERS ON CURRENT CLINICAL CONTROVERSIES

Q: What is the risk of complications from cataract surgery in patients taking anticoagulants?

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A: CATARACT SURGERY is ordinarily quite safe. However, two significant bleeding complications—expulsive choroidal hemorrhage and retrobulbar hemorrhage—can occur and can lead to severe vision loss.

Expulsive choroidal hemorrhage is bleeding from the choroid that breaks through the choroid and the retina and tends to expel the ocular contents. In general, the risk of expulsive choroidal hemorrhage is very low (0.16% incidence for lens-related surgery[1,2]), but the likelihood of losing useful vision when it does occur is 68%.[1,2]

Retrobulbar hemorrhage—bleeding behind the eyeball—is more common (most studies suggest a 2% to 5% incidence[2,3]) but is less likely to lead to vision loss.

Despite their low overall incidence, these complications are clearly a concern in patients who are on anticoagulation therapy. Discontinuing anticoagulants could increase the risk of a life-threatening event in patients who are taking anticoagulants because of atrial fibrillation, a prosthetic heart valve, or a history of vascular disease or thromboembolism. I and others have experienced cases in which the discontinuation of anticoagulants before cataract surgery led to serious medical complications.[4]

Opinions differ about whether to perform cataract surgery in these patients,[4] but logic, reports in the literature, and my own experience lead me to conclude that it is reasonable to do so since it does not seem to measurably increase their risk of complications.

TECHNICAL IMPROVEMENTS REDUCE COMPLICATION RISK

Gentler surgical approach

Cataract surgery formerly involved a 12-mm incision around the periphery of the cornea, with the potential for expulsion of the contents of the globe if choroidal or retrobulbar bleeding occurred. But modern cataract surgery with foldable lens implants has reduced the surgical incision to approximately 3 mm. Furthermore, current surgical techniques tend to maintain normal intraocular pressures and relationships and minimize cutting of vascular tissue. Logic suggests that these techniques would reduce the risk of expulsive choroidal hemorrhage.

Improvements in anesthesia

Retrobulbar hemorrhage is mainly a complication of retrobulbar anesthesia. In my experience using this technique in 123 cataract surgery patients taking warfarin (with international normalized ratios ranging from 1.6 to 5.4), no bleeding complications occurred, and I observed no increase in complications compared with patients not taking warfarin who underwent cataract surgery during the same time.

Recently, topical and intraocular anesthetic techniques have been introduced that do not involve injection of anesthetic and therefore should reduce the risk of hemorrhagic complications in all patients,[5–7] regardless of anticoagulation. Another technique using only intravenous anesthesia has recently been described.[8] The extent to which the ophthalmic profession finds these techniques acceptable will be seen over the next few years.

Newer techniques should reduce risk of bleeding complications

PUBLISHED REPORTS NOT DEFINITIVE

Unfortunately, the ophthalmologic literature contains no definitive prospective controlled studies that address the issue of anticoagulation and the risk of complications in cataract surgery. Nevertheless, reports in the literature do not suggest any difference in the risk of complications, regardless of whether patients

continue to take anticoagulants, stop taking them, or reduce the dosage.[4,5,9–11] Because complications are infrequent, most of the data do not reach statistical significance.

Opinions vary about the effect of aspirin or other platelet inhibitors on the risk of bleeding complications in cataract surgery, and again, no large study addresses this issue. One study of patients on ticlopidine hydrochloride showed a transient ischemic attack in 1 of 10 patients in whom the dose was reduced or stopped for cataract surgery, but it also showed hemorrhagic complications in 6 of 12 patients in whom the medication was not reduced or stopped.[11]

In my practice, I do not routinely ask patients to stop taking aspirin for cataract surgery. On the other hand, many of my patients do stop because their physician advises them to do so. Hence, I cannot offer a perspective on the issue other than to say anecdotally that continuation of aspirin has not appeared to cause problems.

QUESTIONS TO ADDRESS IN PATIENTS TAKING ANTICOAGULANTS

No prospective study has addressed this issue

When faced with a patient who is taking anticoagulants and is a candidate for cataract surgery, we should always ask ourselves the following questions:

- Does the patient need to be taking anticoagulants at all?
- Is the international normalized ratio in an appropriate range for the patient's condition? It is probably wise to have the patient use the minimum therapeutic dose.
- Does the patient have risk factors for surgical bleeding complications, such as a thick neck, obesity, hypertension, old age?
- How might management of complications be affected by bleeding during and after surgery? For example, if the patient's risk of surgical complications is high because of pseudo-exfoliation or subluxation of the lens, conditions in which vitrectomy might be required, it might be wiser to discontinue anticoagulation therapy, as vitrectomy could be risky in a patient on anticoagulation therapy. If anticoagulation must be maintained, the patient could be hospitalized and the medication switched to heparin for the procedure. Certainly, a conversation between the ophthalmic surgeon and the attending physician is appropriate.

WHEN TO DISCONTINUE OR ADJUST ANTICOAGULATION THERAPY

My comments on anticoagulation therapy and surgical risk refer only to simple cataract surgery and not to all types of ophthalmic surgery. Clearly, discontinuation or adjustment of anticoagulation therapy is advisable in certain instances:

- Cataract surgery combined with corneal transplantation or glaucoma filtering surgery, where the intraocular pressure will be dropped to 0 mm Hg during surgery
- Cataract surgery in a patient who has had previous bleeding episodes associated with ocular surgery
- Ophthalmic surgery in a patient at high risk due to a thick neck, obesity, hypertension, or old age.

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