Deep venous thrombosis and cataract surgery

I found the article on deep venous thrombosis after uneventful phacoemulsification by Ong and coauthors' particularly intriguing. It underscores the importance of careful monitoring of patients with coagulopathies. In the case presented by the authors, the patient had factor V Leiden mutation, atrial fibrillation, and a history of deep venous thrombosis (DVT) with pulmonary embolism. The patient developed a DVT that became symptomatic 2 days after cataract surgery. It is unclear whether the patient’s anticoagulant was adjusted after surgery to achieve the preoperative target international normalized ratio (INR) of 3.5 to 4.5 (his perioperative target INR was 2.0). It is likely that this patient developed a DVT in the postoperative period when he was more likely to be sedentary and the anticoagulant had not been readjusted to the preoperative target INR.

Deep venous thrombosis following cataract surgery has been reported in an era in which immobilization following cataract surgery was commonplace. Pulmonary embolism was the most common cause of postoperative mortality with cataract extraction. Many patients developed thrombi in the peripheral vascular system that later embolized to the pulmonary vasculature during periods of immobilization.

This article makes 2 significant contributions to the medical literature. First, we as eye surgeons need to be vigilant in establishing appropriate anticoagulation after we perform surgery. Hematologists may not realize that anticoagulation can be reestablished very soon after uneventful cataract surgery, unlike other types of surgery. Second, admission to the hospital and placement on intravenous heparin before surgery and until appropriate oral anticoagulation can be achieved after surgery is an option. Although this may seem cumbersome to the cataract surgeon, prevention of a pulmonary embolism may be a lifesaving event.

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References

Where do the missed diopters of CBS hide?

Early postoperative capsular block syndrome (CBS) is characterized by capsular hyperextension, intraocular lens (IOL) displacement anteriorly, unexpected myopic shift, and anterior chamber depth (ACD) shallowing (measured usually by ultrasound biomicroscopy [UBM]). The postoperative ACD correlates with the placement of the IOL. An error of 1.0 mm in the ACD affects the postoperative refraction by approximately 1.0 diopter (D) in a myopic eye, 1.5 D in an emmetropic eye, and up to 2.5 D in a hyperopic eye. In the CBS series of Durak et al., the difference in ACD 1 week postoperatively and the final ACD (after CBS relief) correlates with the spherical refractive change (SRC) (Pearson correlation $r = 0.8$, $P = .001$; Spearman correlation $r_s = 0.74$, $P = .004$; regression analysis $\beta = 1.1$ (Table 1). If this series is considered part of the normal population (mostly emmetropic), the SRC is expected to be higher. In all these cases, it seems that something decreased the expected myopic shift.

On the other hand, in the case report of Liu and Chou, the calculated SRC is 0.35 D (ACD difference $3.21 - 3.01 = 0.14$ mm multiplied by 2.5 considering it a hyperopic eye due to IOL power of $[+23.5 \text{ D}]$), which is less than the measured change (1.25 D). The accumulated fluid between the posterior face of the IOL and the posterior capsule is not expected to own a refractive power because of the nearly equal refractive indices (RI) of the aqueous humor, vitreous, and hyaluronic acid (viscoelastic). Still, if a minimal...