Case Report

Delayed Supra Choroidal Haemorrhage after Secondary Anterior Chamber Intra Ocular Lens Implant in a Patient on Warfarin Therapy

Rao M Rashad Qamar, Muhammad a Ahad, Tariq M Arian

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See end of article for authors affiliations

Correspondence to:
Rao Muhammad Rashad Qamar
29-B, Medical Colony
Bahawalpur

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Purpose: To report a case of delayed suprachoroidal haemorrhage after secondary anterior chamber intra-ocular lens implant in a patient on anticoagulant therapy.

Material and Method: An 80 years old patient, who had been on warfarin for 3 years underwent secondary anterior chamber implant through clear corneal incision under local anesthesia. The warfarin was stopped four days before the surgery and her International normalized ratio (INR) on the day of surgery was 2.7. Two weeks later, she developed suprachoroidal haemorrhage.

Results: The suprachoroidal haemorrhage was managed conservatively and the condition settled down in one-month time.

Conclusion: Serious sight threatening complications can develop in patients on anticoagulants even with minimal surgery.

Delayed supra choroidal haemorrhage (DSCH) is a rare surgical complication, which has been reported to occur after glaucoma filtration surgery[1], penetrating keratoplasty[2], cataract extraction[3], vitrectomy[3] and the needling of trabeculectomy blebs[4].

We report a case of DSCH and vitreous haemorrhage following secondary anterior chamber intra ocular lens (AC IOL) implantation in a patient on long-term warfarin therapy.

CASE REPORT

An 80-year old woman with a 5-year history of pseudo-exfoliation and ocular hypertension had undergone routine cataract surgery 10 months previously, which was complicated by a tear in the posterior capsule and vitreous loss. No implant was inserted at that time and the patient returned for secondary intraocular lens insertion. She had a history of acromegaly, atrial fibrillation, congestive cardiac failure, and pulmonary embolism and was regularly taking digoxin, frusemide, and warfarin tablets. Her warfarin was stopped 4 days before surgery when her INR was noted to be 5.71 and on the day of surgery was recorded as 2.7. The procedure was carried out through a clear superior corneal incision under local anaesthesia in order to reduce the risk of an anti-coagulation related complication. Moderate bleeding was noted following a peripheral iridectomy performed after the lens had been inserted. When reviewed one day after surgery, the vision in her right eye had dropped to hand movement. There was

diffuse conjunctival congestion and total hyphaema in the right eye. The intraocular pressure (IOP) of the right eye was 29 mm Hg and there was no fundal view. The right eye had visual acuity of 6/24, a moderate cataract, pseudo exfoliation, and IOP of 24mm Hg. Ultrasonic B scan of the right eye revealed vitreous haemorrhage (Fig. 1A) with no evidence of retinal or choroidal detachment. Her warfarin was discontinued, and she was started on topical atropine 1% and dexamethasone 1%. Over the next 2 weeks, her vision improved to finger counting at 2 meters with gradual resolution of the hyphaema. The IOP was still 29 mmHg, so she was started on levebunolol 0.5% eye drops twice a day in right eye. She was again started on oral warfarin, as her INR was noted to be 0.89. Four days later, she re-presented to the eye casualty department with pain and a sudden decrease in the vision of the right eye, which was measured to be perception of light only. The anterior segment examination was normal but examination of the fundus revealed a reddish black elevated lesion at the posterior pole along with organised vitreous haemorrhage. B scan ultrasound was consistent with the clinical picture of a supra-choroidal haemorrhage (Fig. 1B). The INR at this time was 2.5. In view of the localized nature of the detachment, it was decided to continue with conservative management. The supra-choroidal haemorrhage resolved completely over a period of one month (Fig. 1C). The visual acuity 6 weeks following surgery was 6/24 in the right eye, the anterior chamber was quiet, the IOP on medication was 12mm Hg, the vitreous was almost clear and the INR was 1.91. At this time all, her topical medication was stopped. Four months after the event, the best-corrected visual acuity in right eye was 6/18, and the AC IOL was well placed.

DISCUSSION

Chronic anticoagulation therapy with warfarin is not uncommon in elderly patients requiring cataract surgery. For such patients, the risk of thromboembolism associated with the discontinuation of anticoagulant therapy must be weighed against the risks of per-operative and post-operative bleeding complications, if anticoagulant therapy is continued through surgery. As far as we are aware, the ophthalmic literature contains no definitive prospective controlled studies that address these issues. Nevertheless, retrospective reports indicate that there is no increase in the risk of surgical complications in patients treated with warfarin[5].

The most feared anticoagulation-related complication in cataract surgery is a suprachoroidal haemorrhage, which can result in expulsion of the intraocular structures. A more common event is the retrobulbar haemorrhage, which usually occurs at the time of retrobulbar or peribulbar anaesthesia and is usually diagnosed before surgery is commenced. Recent advances in cataract surgery, such as small incision surgery and topical or subtenon's anaesthesia should logically reduce the frequency of these events. Delayed suprachoroidal haemorrhage is a rare complication, most frequently observed after glaucoma filtration surgery, where it is usually associated with risk factors like aphakia/AC IOL, history of vitreous loss, high myopia, postoperative hypotony, anticoagulant therapy[1] and systemic vascular disease.

Our patient developed suprachoroidal haemorrhage two weeks following secondary AC IOL implantation. She had the two important risk factors associated with DSCH, aphakia/AC IOL and pre-operative anticoagulant therapy[1]. To minimise the risk of a retrobulbar haemorrhage AC IOL was implanted under topical anaesthesia. Significant bleeding occurred following the peripheral iridectomy in this patient whose INR was 2.7. Although, there are no set guidelines for the per-operative INR levels during cataract surgery, a ratio of 2.5 is considered a safe limit, although there have been case reports of uneventful surgery at levels up to 5.4[6,7]. When the patient developed DSCH two weeks after surgery, the INR was 2.5. The exact cause of DCSH is not clear, but it might be attributed to simultaneous rise in INR and altered haemodynamics in choroid, secondary to levebunolol eye drops.

In conclusion, this case, which to our knowledge is the first report of DSCH after secondary AC IOL implant, highlights the hazards of anticoagulation therapy during cataract surgery.

Author's affiliation

Dr. Rao M Rashad Qamar
Assistant Professor,
Bahwal Victoria Hospital/
Quaid-e-Azam Medical College
Bahawalpur

Dr. Muhammad A Ahad
Moorfields Eye Hospital
London UK

Dr. Tariq M Arain

Assistant Professor
Bahwal Victoria Hospital/
Quaid-e-Azam Medical College
Bahawalpur

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Rao M Rashad Qamar
Assistant Professor,
Bahwal Victoria Hospital/Quaid-e-Azam Medical College Bahawalpur

Muhammad A Ahad
Moorfields Eye Hospital, London UK

Tariq M Arain
Assistant Professor,
Bahwal Victoria Hospital/Quaid-e-Azam Medical College Bahawalpur

Corresponding author:

Dr.Rao Muhammad Rashad Qamar
29-B, Medical Colony
Bahawalpur
Phone no: 00923009687434
e-mail: drrashadqr@yahoo.com

Abstract:

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We report a case of DSCH and vitreous haemorrhage following secondary anterior chamber intra ocular lens (AC IOL) implantation in a patient on long-term warfarin therapy.

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Figure legends

1-A B-scan of right eye showing vitreous haemorrhage

1-B B-scan of same eye two weeks later showing supra-choroidal haemorrhage

1-C B-scan of same eye four weeks later showing resolved supra-choroidal haemorrhage