

Diplopia following sub-tenon's anaesthesia: an unusual complication

Robert A. Blum · Lik Thai Lim · Clifford R. Weir

Received: 30 October 2010 / Accepted: 3 February 2012 / Published online: 19 February 2012
© Springer Science+Business Media B.V. 2012

Abstract Diplopia is a rare but well recognised complication following retrobulbar and peribulbar local anaesthesia but it has not been widely reported following sub-tenon's local anaesthesia (STLA). We report on a 76-year-old woman who developed vertical diplopia after left phacoemulsification. She had received a STLA. She had left hypotropia measuring 30 prism diopters for near and distance. She was managed with occlusion but there was no improvement in her findings over 6 months. Ocular motility opinion was then sought and a presumptive diagnosis of inferior rectus fibrosis was made. She subsequently underwent a left inferior rectus recession using adjustable sutures. Postoperatively she had a residual left hypotropia measuring 8 prism dioptres and single vision. Possible causes of inferior rectus fibrosis include muscle damage during traumatic sub-tenon's block or myotoxicity due to local anaesthetic agents. This case highlights the importance of close supervision of inexperienced staff administering regional anaesthetics.

Keywords Cataract extraction · Diplopia · Anaesthesia · Strabismus · Sub-tenon's

R. A. Blum (✉)
Department of Ophthalmology, Medical University of
Vienna, Waehringer Gürtel 18-20, 1090 Vienna, Austria
e-mail: robert.blum@meduniwien.ac.at

L. T. Lim · C. R. Weir
Tennent Institute of Ophthalmology, Gartnavel General
Hospital, Glasgow, UK

Introduction

Diplopia is a rare but well recognised complication following retrobulbar and peribulbar local anaesthesia [1, 2]. However, it has not been widely reported following sub-tenon's local anaesthesia (STLA) [3, 4].

Sub-tenon's local anaesthesia is established as a safe and effective popular technique for providing anaesthesia and akinesia of the eye during cataract surgery. STLA is a safe and effective technique. In addition to providing akinesia, STLA has been shown to provide greater intra-operative patient comfort, and a lower incidence of posterior capsular rupture with vitreous loss. Well-known drawbacks of STLA include chemosis, and subconjunctival haemorrhage [5]. Diplopia has not been widely reported following STLA [3, 4]. We therefore report such a case.

Case

A 76-year-old woman developed vertical diplopia after undergoing left phacoemulsification and intra-ocular lens implantation under STLA. The STLA consisted of 4 ml of 2% lignocaine delivered with a Stevens' cannula. A periorbital haematoma was noted post-operatively. It later emerged that the STLA was given by an unsupervised anaesthetic trainee.

The diplopia was present on the first post-operative day and presumed to be due to left trochlear nerve palsy. The patient underwent 6 months of orthoptic