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Case Report

Steroid Response and Vexol

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ABSTRACT

Raised intraocular pressure from topical steroid application is well recognised. Frequently prednisolone, dexamethasone or betamethasone are replaced with Vexol. We report a case of steroid responsiveness to Vexol of note since it was confirmed following rechallenge with the drug.

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Introduction

About one in every three people is considered a potential "steroid responder". A significant elevation of intraocular pressure might result in these patients in response to steroid treatment [1]. This is a case report demonstrating a steroid response from Vexol.

Case Report

We discuss the case of a 41-year-old mechanic who was treated for glaucoma two weeks after having a primary repair for a penetrating injury. This injury was caused by a spring flying off from the brake and hitting his right eye. His history was otherwise negative. His vision was 6/36 and the anterior segment was shallow. There was iris prolapse from six to seven o'clock associated with a T shaped corneal wound. At 1-week post-op his vision was 6/9. His anterior segment was deep with moderate activity. Gonioscopy showed four clock hours of iris dialysis. His intra-ocular pressure was 36. Fundal examination was normal. He was prescribed Maxidex hourly, Timoptol BD, Chloramphenicol QDS and Atropine BD.

At two weeks the intra-ocular pressure was 53, diamox 250mg QDS was added. His intra-ocular pressure at three weeks was 35, steroid response was considered as a possible reason and he was advised to tail his Maxidex over the next three weeks QDS. His intra-ocular pressure was 40 following this, Xalacom and Iopidine were added and Timoptol

stopped. He still had some activity in his anterior chamber, so was kept on QDS Maxidex. Chloramphenicol and atropine drops were stopped.

His intra-ocular pressure was 35 at seven weeks, at this stage his Maxidex was changed to Vexol QDS to treat the residual mild activity in the anterior chamber and also to see if intra-ocular pressure would come down. It was 33 at nine-week follow-up. A steroid response from Vexol was considered and it was stopped. His intra-ocular pressure was 12 at twelve weeks off diamox. He continued on Xalacom and Iopidine. He was restressed with Vexol and at his four-week follow-up his intra-ocular pressure went up to 38, on stopping the Vexol his intra-ocular pressure one week later was 15.

Comment

Rimexolone (Vexol) is a white, water-insoluble powder with an empirical formula of $C_{24}H_{34}O_3$. In a controlled 6-week study of steroid responsive subjects, the time to raise intraocular pressure was similar for Vexol 1% Ophthalmic Suspension and 0.1% fluorometholone given four times daily. A 1% risk of raised intra-ocular pressure has been estimated by the drug company as an adverse effect [2].

Morphologic changes in the trabecular meshwork (which serves as the site of aqueous humor drainage from the eye) are suggested as the proposed mechanism through which steroid treatment results in glaucoma. Steroids are said to induce the expression of a gene that is

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located on chromosome 1 and is known as TIGR. Its product is a protein called myocilin [3].

Mutations in the myocilin (MYOC), also known as Trabecular meshwork-Inducible Glucocorticoid Response (TIGR) gene were investigated for a link to steroid induced glaucoma by Fingert *et al.* They found several sequence variations in both responders and non-responders but no statistically significant evidence for a link between the two [4]. This was the basis for not assessing the gene status of our patient.

This case is remarkable for the re-challenging and demonstrates that despite using Vexol a steroid response occurred, and it is not a cause that will be thought of immediately.

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