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[Intervention Review]

Corticosteroid implants for chronic non-infectious uveitis

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ABSTRACT

Background

Uveitis is a term used to describe a heterogeneous group of intraocular inflammatory diseases of the anterior, intermediate, and posterior uveal tract (iris, ciliary body, choroid). Uveitis is the fifth most common cause of vision loss in high-income countries, accounting for 5% to 20% of legal blindness, with the highest incidence of disease in the working-age population.

Corticosteroids are the mainstay of acute treatment for all anatomical subtypes of non-infectious uveitis and can be administered orally, topically with drops or ointments, by periocular (around the eye) or intravitreal (inside the eye) injection, or by surgical implantation.

Objectives

To determine the efficacy and safety of steroid implants in people with chronic non-infectious posterior uveitis, intermediate uveitis, and panuveitis.

Search methods

We searched CENTRAL (which contains the Cochrane Eyes and Vision Trials Register) (Issue 10, 2015), Ovid MEDLINE, Ovid MEDLINE In-Process and Other Non-Indexed Citations, Ovid MEDLINE Daily, Ovid OLDMEDLINE (January 1946 to November 2015), EMBASE (January 1980 to November 2015), PubMed (1948 to November 2015), Latin American and Caribbean Health Sciences Literature Database (LILACS) (1982 to November 2015), the *meta*Register of Controlled Trials (*m*RCT) (www.controlled-trials.com) (last searched 15 April 2013), ClinicalTrials.gov (www.clinicaltrials.gov), and the World Health Organization (WHO) International Clinical Trials Registry Platform (ICTRP) (www.who.int/ictrp/search/en). We did not use any date or language restrictions in the electronic search for studies. We last searched the electronic databases on 6 November 2015.

We also searched reference lists of included study reports, citation databases, and abstracts and clinical study presentations from professional meetings.

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Selection criteria

We included randomized controlled trials comparing either fluocinolone acetonide (FA) or dexamethasone intravitreal implants with standard-of-care therapy with at least six months of follow-up after treatment. We included studies that enrolled participants of all ages who had chronic non-infectious posterior uveitis, intermediate uveitis, or panuveitis with vision that was better than hand-motion.

Data collection and analysis

Two review authors independently reviewed studies for inclusion. Two review authors independently extracted data and assessed the risk of bias for each study.

Main results

We included data from two studies (619 eyes of 401 participants) that compared FA implants with standard-of-care therapy. Both studies used similar standard-of-care therapy that included administration of prednisolone and, if needed, immunosuppressive agents. The studies included participants from Australia, France, Germany, Israel, Italy, Portugal, Saudi Arabia, Spain, Switzerland, Turkey, the United Kingdom, and the United States. We assessed both studies at high risk of performance and detection bias.

Only one study reported our primary outcome, recurrence of uveitis at any point during the study through 24 months. The evidence, judged as moderate-quality, showed that a FA implant probably prevents recurrence of uveitis compared with standard-of-care therapy (risk ratio (RR) 0.29, 95% confidence interval (CI) 0.14 to 0.59; 132 eyes). Both studies reported safety outcomes, and moderate-quality evidence showed increased risks of needing cataract surgery (RR 2.98, 95% CI 2.33 to 3.79; 371 eyes) and surgery to lower intraocular pressure (RR 7.48, 95% CI 3.94 to 14.19; 599 eyes) in the implant group compared with standard-of-care therapy through two years of follow-up. No studies compared dexamethasone implants with standard-of-care therapy.

Authors' conclusions

After considering both benefits and harms reported from two studies in which corticosteroids implants were compared with standard-of-care therapy, we are unable to conclude that the implants are superior to traditional systemic therapy for the treatment of non-infectious uveitis. These studies exhibited heterogeneity in design and outcomes that measured efficacy. Pooled findings regarding safety outcomes suggest increased risks of post-implant surgery for cataract and high intraocular pressure compared with standard-of-care therapy.

PLAIN LANGUAGE SUMMARY

Steroid implants for chronic uveitis not caused by infection

Background

Uveitis describes a group of eye diseases caused by inflammation (redness and swelling, etc.). Uveitis is the fifth most common cause of vision loss in high-income countries, accounting for 5% (1 in 20 cases) to 20% (1 in 5 cases) of blindness, with the disease affecting mostly working-age people. In low-income countries, uveitis accounts for 2.4% (1 in 40 cases) to 24% (1 in 4 cases) of legal blindness. These figures are for all types of uveitis (infectious and non-infectious uveitis), so the prevalence of non-infectious uveitis (the focus of this review) is likely lower than these estimates.

In this review, we were only able to focus on posterior uveitis, which occurs in a region in the back of the eye and may affect the choroid, retina, and/or vitreous. Posterior uveitis alone accounts for approximately 15% to 22% (1 in 4 to 6 cases) of uveitis cases and leads to approximately 10% (1 in 10 cases) of legal blindness in the United States. Posterior uveitis is primarily treated either with systemic (whole body, either by mouth or injection) or local (just near or inside the eye) medications that reduce inflammation, such as steroids.

Review question

We compared steroid devices implanted directly into the eye with standard-of-care therapy for non-infectious posterior uveitis. We examined whether the steroid implants were better at treating uveitis, had fewer side effects, or both, than standard-of-care therapy.

Study characteristics

We included two randomized controlled trials that compared fluocinolone acetonide implants with standard-of-care therapy. These studies included 401 participants from Australia, France, Germany, Israel, Italy, Portugal, Saudi Arabia, Spain, Switzerland, Turkey, the United Kingdom, and the United States who were 6 years old or older and were followed for two years. The evidence is current to 6 November 2015.

Key results

Since the two studies were designed to answer slightly different questions about the fluocinolone implant, we were not able to combine data from both studies to compare how well the medications worked. However, we were able to do a combined analysis of the common side effects, which suggest that participants in the steroid implant group had more surgery for cataract (clouding of the lens of the eye) and for high eye pressure than participants in the non-implant group. We were unable to determine whether the steroid implants were better than standard-of-care therapy.

Quality of the evidence

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The overall quality of the presently available published evidence was moderate. This finding indicates that future published research is likely to have an important impact on the conclusions currently provided in this review.

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