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[Intervention Review]

Interventions for intermittent exotropia

Sarah R Hatt¹, Lawrence Gnanaraj²¹Ophthalmology Research, Mayo Clinic, Rochester, Minnesota, USA. ²Sunderland Eye Infirmary, Sunderland, UK**Contact address:** Sarah R Hatt, Ophthalmology Research, Mayo Clinic, Guggenheim 9, 200 1st St. SW, Rochester, Minnesota, 55905, USA.
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ABSTRACT

Background

The clinical management of intermittent exotropia has been discussed extensively in the literature, yet there remains a lack of clarity regarding indications for intervention, the most effective form of treatment and whether or not there is an optimal time in the evolution of the disease at which any treatment should be carried out.

Objectives

The objective of this review was to analyse the effects of various surgical and non-surgical treatments in randomised trials of participants with intermittent exotropia, and to report intervention criteria and determine the significance of factors such as age with respect to outcome.

Search methods

We searched the Cochrane Central Register of Controlled Trials (CENTRAL) (which contains the Cochrane Eyes and Vision Group Trials Register) (*The Cochrane Library*, Issue 4, 2012), MEDLINE (January 1966 to May 2012), EMBASE (January 1980 to May 2012), Latin American and Caribbean Literature on Health Sciences (LILACS) (January 1982 to May 2012), the *metaRegister of Controlled Trials* (*mRCT*) (www.controlled-trials.com), ClinicalTrials.gov (www.clinicaltrials.gov) and the WHO International Clinical Trials Registry Platform (ICTRP) (www.who.int/ictpr/search/en). We did not use any date or language restrictions in the electronic searches for trials. We last searched the electronic databases on 4 May 2012. We are no longer searching the UK Clinical Trials Gateway (UKCTG) for this review. We manually searched the British Orthoptic Journal up to 2002, and the proceedings of the European Strabismological Association (ESA), International Strabismological Association (ISA) and American Academy of Paediatric Ophthalmology and Strabismus meeting (AAPOS) up to 2001. We contacted researchers who are active in the field for information about further published or unpublished studies.

Selection criteria

We included randomised controlled trials of any surgical or non-surgical treatment for intermittent exotropia.

Data collection and analysis

Each review author independently assessed study abstracts identified from the electronic and manual searches. Author analysis was then compared and full papers for appropriate studies were obtained.

Main results

We found one randomised trial that was eligible for inclusion. This trial showed that unilateral surgery was more effective than bilateral surgery for correcting the basic type of intermittent exotropia.

Authors' conclusions

The available literature consists mainly of retrospective case reviews, which are difficult to reliably interpret and analyse. The one randomised trial included found unilateral surgery more effective than bilateral surgery for basic intermittent exotropia. However, across all identified studies, measures of severity and thus criteria for intervention are poorly validated, and there appear to be no reliable natural history data. There is therefore a pressing need for improved measures of severity, a better understanding of the natural history and carefully planned clinical trials of treatment to improve the evidence base for the management of this condition.

PLAIN LANGUAGE SUMMARY

Treatment for a type of childhood strabismus where one or both eyes intermittently turn outwards

Strabismus is a condition in which the eyes are not normally aligned, that is one eye looks straight ahead whilst the other eye turns inwards, outwards, up or down. Most cases of childhood onset strabismus are present constantly, but some types are intermittent that is only present sometimes. In intermittent exotropia (X(T)) an eye intermittently turns outwards (exotropia), typically more when looking into the distance, when tired or day-dreaming. When the child focuses on something close, the eye usually moves back to the centre. The eyes typically work together normally when the exotropia is controlled. When the exotropia occurs, the image from one eye is usually switched off or 'suppressed'. Treatment for X(T) may be sought to improve the appearance of misalignment or if there is concern that it is affecting the ability of the eyes to work together. Treatment typically consists of surgery on the muscles around the eye, either on the outside muscle of both eyes or on the inside and outside muscle of one eye. Exercises to strengthen the muscles may sometimes be used; sometimes patching or glasses for short or near sightedness can be tried. There is currently not a clear understanding of which treatments work most effectively and at what point any treatment should be given. We searched for studies where participants with X(T) had been randomised to receive treatment. The aim was to understand which treatments are most effective at correcting the exotropia without causing any harm. The one study included in this review was conducted by a single surgeon in the USA and compared surgery on one eye to surgery on both eyes in 36 children with the basic type of X(T). Success was defined as no exotropia (or other strabismus) one year following surgery. The study found that surgery on one eye was more effective (82% success) than surgery on both eyes (52% success). There are many studies of X(T) in the current literature but the methods used make it difficult to reliably interpret the results. Furthermore, there is a worrying lack of evidence regarding the natural history of X(T) and poor validation of measures of severity. There is a clear need for further randomised studies to provide more reliable evidence for the management of this condition.