

Behavioural side effects of Atropine eye drops

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Objectives

Atropine sulfate eye drops are used to induce cycloplegia and mydriasis and therefore used in ocular penalisation as an alternative treatment to occlusion to treat amblyopia (1).

Service development in a single centre community eye service introduced atropine penalisation as an available alternative to occlusion.

Paediatric orthoptic clinicians noted a trend in parental reports of behaviour changes as side effects of the treatment.

A search of the literature found minimal reported evidence of behavioural side effects from the use of Atropine eye drops especially in optical penalisation (2,3). Although side effects from this treatment are reported, these generally concentrate on ocular irritations rather than systemic or behavioural (4).

This aim of this work was to collate behavioural side effects and explore trends in their incidence.

Methods

Clinical data was collated at a single community orthoptic site for patients whose parents reported behavioural side effects from Atropine optical penalisation treatment.

- All side effects were documented in patient records
- Yellow card reports were made for central UK reporting, with parental consent.
- Batch numbers for all cases was recorded and compared.

Results

- 8 parents reported behavioural side effects in their children (Oct 2022- Feb 2023).
- Side effects included eye rolling, irritability, hyperactivity and aggressive behaviour.
- A common factor was that many had used the same batch of Atropine eye drops.
- In some cases, a joint clinician / parental decision was made to stop the atropine treatment as a result of these side effects.



Conclusions

- Behavioural change is a viable side effect with Atropine eye drop use in children.
- Incidents highlight the importance of appropriate ocular instillation with punctal occlusion to prevent systemic absorption.
- It also raises awareness of the possibility of a potentially defective batch of Atropine.
- As a result of these findings, local patient information leaflets were updated to improve information regarding correct installation of eye drops and risk of side effects.

References

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