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IMAGES IN PAEDIATRICS

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Unilateral fixed dilated pupil in a well child

A 19-month-old boy attended the paediatric assessment unit with asymmetrical pupils. This had first been noticed 8 h previously. The boy had asthma for which he was prescribed both salbutamol and ipratropium bromide inhalers, which were given via a spacer and facemask. That morning, inhaler administration had been difficult, as his mother's attempts to deliver the drugs had been resisted. On examination, the child was found to be well with a unilateral left dilated pupil, which did not react to light (fig 1). There were no other eye signs, and systemic examination was unremarkable. The pupil did not constrict when pilocarpine drops of either 0.1% or 1% concentration were applied to the eye, indicating a pharmacological cause for the mydriasis. By the next morning, the symptom had completely resolved.

It can be assumed that the mydriasis was caused by the inadvertent instillation of ipratropium bromide into the affected eye. Ipratropium bromide is an antimuscarinic agent and, like atropine, will cause mydriasis and cycloplegia if applied to the eye.¹ Both nebulised and inhaled treatment have previously been reported to induce this side effect in children.^{2–3} An Adie's pupil and third nerve palsy can be excluded, as these will constrict with instillation of pilocarpine eye drops of 0.1% and 1% concentration, respectively.⁴ A unilateral dilated pupil can be a worrying sign, requiring thorough investigation. This could occasionally be avoided if the benign differential diagnosis described is considered.

Figure 1 Unilateral left dilated pupil which did not react to light. Parental consent was obtained for publication of this figure.

Correspondence to: T Brodie, 59 Northfield Road, Harborne, Birmingham B17 0ST, UK; tristanbrodie@doctors.org.uk

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Parental consent was obtained for the publication of the child's details in this report.

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T Brodie, S Adalat

Birmingham Heartlands Hospital, Birmingham, UK