Blindingly Obvious - Combivent® as a Cause of a Unilateral Painless Mydriasis

Sir,

Many neurological and ophthalmological disorders are known to cause a unilateral, painless, fixed, dilated pupil. A number of pharmacological agents are also known to cause a mydriasis. We present a case of a young, healthy woman who presented to the emergency department (ED) with a short history of nausea, dizziness, and blurring of vision as a result of a combivent® nebulizer.

Case Report
A 31 year female presented to the emergency department with rapid onset of blurring of vision, dizziness, and nausea. Examination showed a painless, fixed, dilated left pupil. Neurological examination was otherwise normal. There was no history of headache or trauma. MRI brain was reported as normal. Full blood count, electrolytes, serum glucose, and inflammatory markers were also normal. Topical pilocarpine 1% induced normal constriction of the right pupil but had no effect on the left, confirming the pharmacological basis of the left mydriasis. A detailed history revealed that the above symptoms developed shortly after preparing a combivent® nebulizer for her mother. Following the instillation of Combivent® into the nebulizer acorn, she rubbed her left eye. A diagnosis of a pharmacologically dilated left pupil, as a result of topical Combivent® was made. The combined anti-muscarinic effect of ipratropium bromide and sympathomimetic effect of salbutamol both served to cause mydriasis. On review 1 week later, the patients vision had returned to normal and examination was normal.

Discussion
Many drugs are known to cause mydriasis. Anticholinergic agents such as atropine, hyoscyamine, and scopoline antagonize the muscarinic acetylcholine receptors in the brain, causing pupillary dilation. Many hallucinogens induce mydriasis, including the psychedelics, LSD, and magic mushrooms, by agonizing the serotonergic 5-HT2A receptors. Mydriasis caused by plants containing alkaloids has previously been described. Easy access to necessary investigations is a good thing in the ED, but must never allow us forget that over 80% of diagnoses can be made on history taking alone.

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References