LETTER TO EDITOR (VIEWERS CHOICE)

CASE OF ATROPINE TOXICITY WITH ATROPINE EYE OINTMENT

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A 4 year old blonde male child of canadian nationality was brought to the out-patient department with complaints of difficulty while passing urine. Mother had also noticed abnormal behavior like screaming and the child was trying to catch things on the wall (hallucinations) since the previous night. She also noted that the face of the child became red for a few minutes after each application of 1% atropine eye ointment prescribed by an ophthalmologist for his eye examination since past 3 days which she was applying twice a day from medial to lateral canthus. On examination the child had signs of atropine toxicity in the form of flushing of face, dilated pupils and tachycardia. His body temperature was elevated at 101o F. His tongue looked dry and parched and he was extremely restless, running around in the examination room. Although he complained of difficulty passing urine, the bladder was not distended at the time of examination. The atropine ointment was stopped. On follow up 2 days later his behavioral symptoms had decreased however the child continued to have dilated pupils for nearly 3-4 weeks.

Atropine is a competitive agonist of acetyl choline at muscarinic receptors.(1) Ophthalmic atropine sulphate blocks the cholinergic response of the iris sphincter and ciliary muscle, causing mydriasis and cycloplegia. Atropine is used in some children by some ophalmologists as a cycloplegic agent as their accommodation is very strong. It can be used in the form of drops or eye ointment. One single drop of atropine drops 1% (i.e. 0.05 ml) contains 0.5mg of atropine. The amount of atropine in the 1% atropine ointment could vary depending on the amount applied. Approximately one centimeter length of the ointment contains 0.5 mg of the drug (equal to one drop of 1% eye drops). Any child can be exposed to as high as 3 mg of the drug in a single day. Side effects due to ophthalmic preparations are rare but are likely in children due to their smaller body mass. It is also possible due to hypersensitivity in some cases particularly those with blonde hair as was in this case.(2) Systemic absorption of atropine is known to happen through the conjunctival capillaries and the nasal mucosa. There are reports of visual hallucinations, restlessness, confusion and insomnia.(3) These side effects have been reported in adults with or without underlying renal problems.(4, 5) Tropicamide and homatropine are safer drugs though rarely side effects have been reported with homatropine.(6) Atropine preparations should be used with caution in children. The method of application of the drug should be clearly explained with strict instructions to stop medication and inform the doctor if any abnormal symptoms are seen.

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E-published: 1st June 2013 **Art** # 32

DOI No. 10.7199/ped.oncall.2013.32

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