

## 75 POISONING AFTER LOCAL APPLICATION OF ATROPINE EYE DROPS IN CHILDREN

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**Objective:** Atropine containing ophthalmic preparations are used for diagnosis and therapy of a variety of eye diseases in children. Between 1994 and 2000 we encountered 14 cases of poisoning with atropine eye drops, 8 of them after prescription by a physician. Here we present three typical cases. **Case Reports:** **Case 1:** A 9-month-old boy receiving 0.5% atropine ocular solution (one drop in each eye twice daily) was admitted with mydriasis, flushing, somnolence, vomiting, tachycardia, and increased temperature (38.5 °C) three days after beginning an ocular instillation. The dose was estimated at 0.07 mg/kg/d. 24 hours after the last application the atropine level was 42.6 ng/mL (therapeutic range: 3-25 ng/mL). Symptoms disappeared quickly following controlled administration of physostigmine. **Case 2:** A 1.5-year-old girl was hospitalised with flushed, warm, dry skin, tachycardia, excitatory state, mydriasis and increased temperature of (37.4 °C) 45 minutes after the second application of 0.5% atropine eye drops twice daily at 12 hourly intervals. The dose could not be estimated exactly. The parents declined treatment and flushing and tachycardia continued over the next 6 hours. Mydriasis was observed for more than 24 hours. **Case 3:** A 3-year-old boy was admitted with tachycardia, an excitatory state, mydriasis and respiratory depression three days after beginning therapy with 1% atropine eye drops. This was given as a therapeutic dose of one drop three times a day. The dose was estimated at 0.1 mg/kg/d. The patient was intubated and ventilated. Symptoms resolved after two doses of physostigmine intravenously. **Conclusion:** Local application of atropine containing eye drops in therapeutic dose may cause systemic poisoning in infants. Inexpert application, short dosing intervals, and administration in both eyes appear to increase the risk of overdose. Following ocular instillation atropine may be absorbed from the conjunctival sac directly as well as from the ingested overflow. Physostigmine is an effective antidote but it ought to be given only in severe cases of anticholinergic symptoms and under carefully controlled conditions.