

## **A prospective study on two atropine regimens in acute organophosphorus and carbamate poisoning.**

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**Objective:** There is wide variation and lack of evidence in current recommendations for atropine dosing schedules leading to subsequent variation in clinical practice (1). Therefore we sought to examine the safety and effectiveness of a titrated versus *ad hoc* atropine treatment regimen in a cohort of patients with acute cholinesterase inhibitor pesticide poisoning. **Method:** A prospective cohort study was conducted in 3 district secondary referral hospitals in Sri Lanka using a structured data collection form that collected details of clinical symptoms and outcomes of cholinesterase inhibitor pesticide poisoning, atropine doses and signs of atropinisation. We compared two hospitals that used a titrated dosing protocol based on a structured monitoring sheet for atropine infusion with another hospital using an *ad hoc* regime. **Results:** During the study 272 symptomatic patients with anticholinesterase poisoning requiring atropine were admitted to the three hospitals. Outcomes of death and ventilation were analyzed for all patients; 226 patients were prospectively assessed for atropine toxicity. Patients in the titrated dose cohort were more severely poisoned at baseline, having ingested pesticides with higher human toxicity, been transferred to hospital from a peripheral hospital, and had more clinical signs of anticholinesterase poisoning. They received less pralidoxime and atropine and were less likely to develop features of atropine toxicity such as delirium (1% vs 17%), hallucinations (1% vs 35%) or either (1% vs 35%) and need for patient restraint (3% vs 48%) compared with the *ad hoc* dose regime. After adjusting for the pesticides ingested, there was no difference in mortality and ventilatory rates between protocols. **Conclusions:** *Ad hoc* high dose atropine regimens are associated with more frequent atropine toxicity without any obvious improvement in patient outcome compared with doses titrated to clinical effect. Atropine doses should be titrated against response and toxicity. Further education and the use of a structured monitoring sheet may assist in more appropriate atropine use in anticholinesterase pesticide poisoning. **References:** .1 Eddleston M, Buckley NA, Cheek H, Senarathna L, Mohamed F, Sheriff MH, Dawson A. Speed of initial atropinisation in significant organophosphorus pesticide poisoning - a systematic comparison of recommended regimens. *J Toxicol* 2004;42(6):865-875.