

The effect of organophosphorus poisoning on thermoregulation in humans

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We conducted a prospective cohort study of body temperature in organophosphorus pesticide (OP) poisoning. All patients received atropine and/or pralidoxime and general supportive care. Tympanic and ambient temperature, heart rate and clinical examination and interventions were recorded. In the first phase of the study, we looked at 14 sequential patients with OP poisoning. A minority of patients simply demonstrated signs of OP poisoning, a few were asymptomatic and many patients demonstrated signs most consistent with excess prior administration of atropine. Initial hypothermia as low as 32°C was observed in untreated patients. The second phase of the study was restricted to 8 patients selected from 39 presentations - those with overt signs and symptoms of OP poisoning who had not received atropine prior to arrival. They had ingested dimethoate(5), chlorpyrifos(1), phenthoate(1) or quinalphos(1). There was a clear trend of tympanic temperature increasing from an initial hypothermia to later fever. While some of the late high temperatures occurred in the setting of marked tachycardia it was also apparent that in some cases fever was not accompanied by tachycardia, making excessive atropine or severe infection an unlikely explanation for all the fevers. **Conclusion:** OP poisoning caused an initial fall in body temperature, and this was followed by a longer period of normal to high body temperature.