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Speed of initial atropinisation in significant organophosphorus pesticide poisoning -a systematic comparison of recommended regimens. JArticle; Journal of Toxicology and Clinical Toxicology ; Vol: 42; No.(6); 2004_.865-875pp

Abstract : Objective-Early deaths from organophosphorus (OP) pesticide self-poisoning result from respiratory failure and cardiovascular collapse. Therapy requires the urgent use of atropine to reverse cholinergic excess, thereby improving respiratory function, heart rate, and blood pressure. We aimed to assess variation in textbook recommendations for early atropinisation and to see whether this variation affected time to stabilisation using model data from 22 severely poisoned patients seen in a Sri Lankan clinical trial. Methods-We extracted prospectively recorded data on atropine requirements for 22 OP poisoned patients who required intubation but survived to discharge. We did a systematic search for textbook recommendations for initial atropinisation regimens. These regimens were then applied to data from the Sri Lankan patients. Results-The patients required a mean of 23.4 mg (standard deviation 22.0, range 1-75 mg) atropine to clear the lungs, raise the pulse above 80bpm, and restore systolic blood pressure to more than 80 mmHg. Textbook recommendations varied markedly -atropinisation of an average patient, requiring the mean dose of 23.4mg, would have taken 8 to 1380 mins; atropinisation of a very ill patient, requiring 75mg, would have taken 25 to 4440 mins. Atropinisation was attained most rapidly with a regimen of increasing bolus doses after failure to respond to the previous bolus. Conclusions-There is great variation in recommendations for atropinisation, with some regimens taking hours and even days to stabilise a patient. The guidelines are very flexible - possibly appropriate for experienced emergency physicians or clinical toxicologists, but completely inappropriate for the inexperienced junior doctors who see most cases worldwide. We recommend that a consensus guideline be developed by appropriate organisations to bring order to this important part of OP therapy, while acknowledging the paucity of data to drive the guidelines.