

Antidotes supply in emergency from Pavia Poison Control Centre

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Objective: Antidotes can play a critical role in the management of poisoned patients. Nevertheless, the inadequate availability of antidotes is a known problem in Italian Emergency Departments (EDs) [1]. In Italy, one of the planned Poison Centre functions is monitoring antidotes demand and managing the antidotes stockpile to ensure their prompt availability in the emergency setting. The antidotes supply by the Pavia Poison Control Centre (PCC) to the Emergency Departments of the National Health System is evaluated.

Methods: A retrospective analysis of antidote supply in emergency from PCC from 1st January 2007 to 31st December 2012 was conducted. Antidotes for human poisonings are examined for type, amount e destination. Antidotes mobilization for treatment of animals or preventive stocking (hospitals, industries, other settings) were excluded.

Results: 151 cases (20 different antidotes) of supply in emergency were registered; 39 mobilizations were related to fomepizole 1.5 g (min/max, 1-9 vials), 15 calcium gluconate gel (3-21 tubes), 15 N-acetylcysteine (6-50 vials), 12 Viper-Fab-antivenom (2-6 vials), 12 digoxin immune Fab (2-12 vials), 10 glucagon (30-100 vials), 7 pralidoxime (60-400 vials), 7 succimer (15-180 capsules),5 physotigmine (1-20 vials), 4 Ca-EDTA (1-20 vials), 4 hydroxocobalamin (2-3 kit), 4 penicillamine (100-200 capsules), 4 activated charcoal (3-10 bottles), 4 ethanol (30-50 vials), 2 PEG 400 (2 bottles), 2 sodium thiosulfate (50-100 vials), 2 L-carnitine (15-20 vials), 1 atropine (50 vials), 1 cyproheptadine (2 vials), 1 pyridoxine (18 vials). In 45% of cases, antidotes were provided for immediate administration (availability in 30 minutes). The antidote was supplied in other Italian regions in 47% of cases. Most antidotes were mobilized for ethylene glycol/methanol, hydrofluoric acid, alpha-amanitin, digoxin, viper and beta-blockers poisonings.

Conclusion: Antidote stockpiles of Italian EDs are often lacking and sometimes insufficient for a single patient treatment. Forty-five percent of the emergency supply activity involved antidotes that should be available in EDs within 30 minutes, and 20% regarded antidotes not registered in Italy. Mobilizations involved only 29% of Pavia-PCC stockpile: it must be considered that in the analyzed period, there was no request of antidote for industrial accident/mass intoxication or for rare intoxications. Moreover in some cases the PCC moved antidotes from other hospital stockpiles identified through the 'national antidotes data-base' (www.cavpavia.it). This data-base, available since 2006, represents a unique operating system that permits the management and optimization of all the national hospital stockpiles of antidotes. The results point out the critical role of Pavia-PCC in early mobilization of antidotes for timely management of acutely poisoned patients in Italy.

References: 1. Locatelli C et al. Antidotes availability in Emergency Departments of the Italian National Health System and development of a national data-bank on antidotes. *Ann Ist Super Sanita.* 2006;42:298-309.