

The role of the hospital pharmacy in the storage and supply of antidotes

APPENDIX

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Table A1. Antidote prioritization. Modified from Locatelli C, 2012.¹

	<i>COMMERCIAL NAME</i>	<i>MAIN INDICATION OF USE</i>	<i>PHARMACEUTICAL FORM</i>	<i>ROUTE OF ADMINISTRATION FOR ANTIDOTIC</i>
Ethyl alcohol	Ethyl alcohol 95°	Methanol, ethylene glycol	Solution for injection, 10 mL vials at 95°	i.v.
Amyl nitrate	Galenic medicine, generic denomination	Ayanides	Solution, 1 mL vials	Inhalation
Atropine sulfate	Galenic medicine a generic denomination	Carbamates, esters, organophosphorus nerve agents	Solution for injection, vials	i.v.
Sodium bicarbonate	Galenic medicine, generic denomination	Alkalinization of plasma and urine, drug cardiotoxicity	Solution for infusion, vials bottles	i.v.
Methylene blue	Galenic medicine, generic denomination	Meta-hemoglobinizing substances	Solution for injection	i.v.
Calcium chloride	Galenic medicine, generic denomination	Hypocalcemia by ingestion of chlorides, oxalates	Solution for injection	i.v. central catheter

Calcium gluconate	Galenic medicine, generic denomination	Hypocalcemia by ingestion of chlorides, skin contact with chlorides	Solution for injection	i.v. Topical, oral
Glucuronide calcium lactate and calcium carbonate	Galenic medicine, generic denomination	Ingestion of sodium fluoride	Effervescent tablets	Oral
Vegetable charcoal and activated powder	- carbomix - toxicarb - galenic formulations	Non-specific adsorbent	Solution for injection	Oral
Diazepam	- valium - noan - diazemuls - galenic formulations	Chloroquine	Solution for injection	i.v.
Physostigmin (eserine) salicylate	Galenic medicine, generic denomination - anticholium	Central anticholinergic syndrome	Solution for injection	i.v.
Flumazenil	- anexate - galenic formulations	Benzodiazepines	Solution for injection	i.v.
Antibody fragments antidigital	- digibind - digiFab - digitalis - Antidot BM digidot	Digitalis glycosides and other glycosides Digitalis-like	Lyophilized powder of antibody fragments, bottles	i.v.

Glaucon hydrochloride	Glucagen	Beta blockers	Glaucon hydrochloride	Glucagen
Hydroxocobalamin	Cyanokit	Cyanides	Lyophilized powder in vials	i.v.
Ipecac syrup	Galenic medicine a generic denomination	Induction of emesis	Syrup in bottles	Oral
Magnesium sulfate	Parapharmaceutical	Cathartic	Powder for suspension in liquid various formulations	Oral
Naloxone	- narcan - generic formulations	Opioids	Solution for injection in vials	- i.v. - i.m. - subcutaneous - endotracheal - intranasal aerosol - mad with intranasal device
Vaseline or liquid paraffin	Galenic medicine a generic denomination	Petroleum solvents	Emulsion simple in various formulations	Oral
Polyethylene glycol 400 (PEG 400, macrogol 400)	Galenic medicine	Skin decontamination of phenols	Bottles	Topical use
Polyethylene glycol 4000 (PEG 4000, macrogol 4000)	- isocolan - macro-p - selg250 - selg1000 - selg-esse1000	Catharsis, washing bowel irrigation	Powder for suspension with added electrolytes	Oral

Protamine hydrochloride or sulfate	Galenic medicine	Heparin	solution for injection	i.v.
Simethicone	- mylicon - simecrin - simegut - galenic medicine	Foaming substances	Oral drops suspension bottles	Oral
Sodium thiosulfate	Galenic medicine a generic denomination	- Ingestion hypochlorite (bleach classical) - cyanides	solution for injection	- Oral - i.v.
Land of fuller	Land of fuller	Antidote for paraquat and diquat	Powder for suspension in jars	Oral
Vitamin K1-phytomenadione	- konaktion - generic medicine	Anticoagulant, warfarin	Solution for injection	- i.v. - i.m. - Oral

i.v., intravenous; i.m., intramuscular.

Table A2. Antidote prioritization. Modified from Locatelli C, 2012.¹

	<i>COMMERCIAL NAME</i>	<i>MAIN INDICATION USE</i>	<i>FORM PHARMACEUTICAL</i>	<i>ROUTE OF ADMINISTRATION FOR ANTIDOTE</i>
Folic acid	Folin	Methanol	Solution for injection	- i.m. - Oral
Folic acid, calcium levofolinate leucovorin	- calfolex - lederfolin - levotolene - sanitolin - generic medicine	- methanol - methotrexate - pyrimethamine - trimethoprim	Lyophilized powder bottle	i.v.
Bromocriptine	Medicine generic denomination	Neuroleptic malignant syndrome	Tablets Capsule	Oral
Calcium gluconate gel	Galenic medicine magisterial	Skin contact with fluorides	Gel in tubes	Topical use
Cyproheptadine	- periactin	Serotonin syndrome	Tablets Bottle	Oral
Chlorpromazine	- largactil - medicine generic denomination	Serotonin syndrome	Phials	i.v.

Dantrolene	Dantrium	- neuroleptic malignant syndrome - malignant hyperthermia	- lyophilized powder - capsules	- i.v. - oral
Fomepizole	- fomepizole - antizol - tomezpizole iniectioin	- ethylene glycol - methanol	Solutions for injection phials and bottles	i.v.
Antibody fragments anti-viper	- European - vipervenim antiserum - viperfay - viperaTAh	European viper bite	vials pre-filled syringes lyophilized bottles	i.v.
N-acetylcysteine	- Fluimucil 600 - fluimucil - hidonac - drug generic denomination	- paracetamol - amanitin containing mushrooms - chlorinated hydrocarbons - solvent hepatotoxic	Effervescent tablets Injectable solutions Bottles	- i.v. - oral
Neostigmin methylsulfate	- intrastigmin - prostigmin	Anticholinergic paralytic ileus, paralytic agents	Solution for injection	- subcutaneous - i.m. - i.v.
Pralidoxim	Contrathion	Organophosphorus esters	Lyophilized powder in bottles	i.v.
Serum antitotulinico	Botulism antitoxin	Botulism	Serum of equine origin in bottle	i.v.

Vitamin B1-thiamine	- drug generic denomination - Benerva	- ethyl alcohol - ethylene glycol	Solution for injection	- i.v. - i.m.
Vitamin B6 - pyridoxine hydrochloride	Benadon	- isoniazid - hydrazine - crimidina - giromitrina - ethylene glycol	Solution for injection phials	- i.v. - i.m.
Vitamin C - ascorbic acid	Vitamin C	Meta-hemoglobinemia	Phials	i.v.
L-carnitine	L-carnitine	Hyperammonemia Hepatotoxicity Encephalopathy from valproic acid	Phials	i.v.

i.v., intravenous; i.m., intramuscular.

Table A3. Antidote prioritization. Modified from Locatelli C, 2012.¹

	<i>COMMERCIAL NAME</i>	<i>MAIN INDICATIONS USE</i>	<i>PHARMACEUTICAL FORM</i>	<i>ROUTE OF ADMINISTRATION FOR ANTIDOTICO</i>
Benzyl thiouracil	Basdene	Thyrotoxicosis	Tablets	Oral
Prussian blue	- antidotum talli - radiogardase	Thallium	Capsule	Oral
Calcium disodium edetate (EDTA)	- drug generic denomination - calcium Editate of sodium	Lead	Phials	i.v.
Deferoxamine	Desferal	Iron Aluminum	Lyophilized powder in bottles	i.v.
DMPS	Dimaval	--	Phials Capsule	i.v. Oral
Dimercaprol	B.A.L.	- arsenic and Lewisites - inorganic mercury - lead - gold	Phials	i.m.

Phentolamine	Regitin	<ul style="list-style-type: none"> - extravasation by vasoconstrictors - hypertensive crisis by vasoconstrictors or stimulants 	Phials	i.v. Local infiltration
Penicillamine	Pemine	<ul style="list-style-type: none"> - copper - also used in mercury poisoning - lead - zinc - gold - arsenic - cadmium 	Capsule	Oral
Anti Malmignatta serum	Antivenim latrodectus mactans	Malmignatta	Lyophilized powder in bottles	i.v.
Succimer (DMSA)	Chemet Succicaptal	<ul style="list-style-type: none"> - arsenic - Lewisites - other metals 	Tablets	Oral

i.v., intravenous; DMPS, dimercapto acid 2.3 -1 propanesulfonic acid.

Table A4. Antidote prioritization. Up-dated 2012. Modified from Locatelli C, 2012.¹

	<i>COMMERCIAL NAME</i>	<i>MAIN INDICATION OF USE</i>	<i>PHARMACEUTICAL FORM</i>	<i>ROUTE OF ADMINISTRATION FOR ANTIDOTE</i>
Dexrazoxane hydrochloride	Savene	Extravasation of anthracyclines	Powder for injection	i.v.
Potassium iodide (available at the Pavia PCC)	Galenic preparation	Radioactive iodine	Hard capsule	Oral
Serum rabies	Berirab	Rabies prophylaxis	- Solution for injection of immunoglobulins of human origin - Solution for injection of immune globulin of equine origin	Perilesional and intramuscularly away from the bite
Rabies vaccine	Rabipur	Active immunization for rabies	Powder for solution for injection	i.m.

i.v., intravenous; PCC, Poison Control Center; i.m., intramuscular.

Table A5. Antidote prioritization. Modified from Locatelli C, 2012.¹

	<i>COMMERCIAL NAME</i>	<i>MAIN INDICATION OF USE</i>	<i>PHARMACEUTICAL FORM</i>	<i>ROUTE OF ADMINISTRATION FOR ANTIDOTE</i>
Diethylenetriaminepentaacetic	Ditripentat-Ca	Transuranic nuclides of heavy metals	Solution for injection	Slow i.v. infusion
Pentaacetate calcium (Ca-DTPA) and zinc (Zn-DTPA)	Ditripentat-Zn			
Propylthiouracil	Propicil	Drug-related hyperthyroidism	Tablets	Oral

i.v., intravenous.

References

1. Locatelli C, Petrolini V, Lonati D, et al. Antidoti 2012, guida all'uso clinico e all'approvvigionamento. Pavia: Centro Antiveleni Pavia; 2012. Available from: <http://www.cavpavia.it>