

常見中毒評估與處置

亞東醫院 藥劑部
葉子慧藥師

大綱

- 評估
- 常見造成中毒之物質
 - 重金屬
 - 化學物質
 - 藥物
- 藥物中毒引起之症狀及其治療方式
- 常見解毒劑介紹

The screenshot shows the 'Taiwan Antidote Network' website. It features a map of Taiwan divided into regions, with red dots indicating the locations of various antidote centers. To the left of the map is a list of available antidotes, including Physostigmine, Ca-EDTA, and others, with their respective manufacturers and quantities. The website header includes navigation links for '目的', '網站', '醫院中心', '解毒劑使用流程', '解毒劑使用清單', and '醫院設備狀況'.

This screenshot displays a detailed table of hospital equipment status for various antidotes. The table columns include '醫院' (Hospital), 'Physostigmine Amp', 'Naloxone Val', 'Cyproheptadine Set', 'Cyproheptadine Amp', 'EDTA Amp', 'DMG Amp', 'DMPS (Cup)', 'DMPS (Amp)', 'DigFab Val', and 'Fomepizole Val'. The rows list different hospitals and their respective stock levels for each antidote. The website header is similar to the previous screenshot, with navigation links and a search bar.

Evaluation and treatment

- vital signs
- mental status
- pupil size should be rapidly assessed
- oximetry pulse
- cardiac monitoring
- in patients with suspected occult trauma
 - in-line cervical immobilization is required
 - the airway should be assessed
 - advanced cardiac life support

toxic syndrome and the potential etiologies of poisoning

Toxic syndrome	Mental status	Pupils	Vital signs	Other manifestations	Examples of toxic agents
Sympathomimetic	Hypert alert, agitation, hallucinations, paranoia	Mydriasis	Hypertension, tachycardia, hypertension, tachypnea, hyperreflexia	Diaphoresis, tremors, hyperreflexia, seizures	Cocaine, amphetamines, ephedrine, pseudoephedrine, phenylephrine, theophylline, caffeine
Anticholinergic	Hypervigilance, agitation, hallucinations, delirium with mumbling speech, coma	Mydriasis	Hypertension, tachycardia, hypertension, tachypnea	Dry flushed skin, dry mucous membranes, decreased bowel sounds, urinary retention, mydriasis, choroidaesthesia, slurred speech, seizures (rare)	Anticholinergics, tricyclic antidepressants, cyclobenzaprine, orphenadrine, antiparkinson agents, antispasmodics, cholinesterase inhibitors, scopolamine, belladonna alkaloids (eg, Jimson weed)
Hallucinogenic	Hallucinations, perceptual distortions, disorientation, somnolence, agitation	Mydriasis (usually)	Hypertension, tachycardia, hypertension, tachypnea	Mydriasis	Phencyclidine, LSD, mescaline, psilocybin, designer amphetamines (eg, MDA, MDMA)
Opioid	CNS depression, coma	Miosis	Hypotension, bradycardia, hypoxemia, hypoxia, bradypnea	Hyporeflexia, pulmonary edema, needle marks	Opiates (eg, heroin, morphine, methadone, oxycodone, hydromorphone), diphenhydramine
Sedative-hypnotic	CNS depression, confusion, stupor, coma	Miosis (usually)	Hypotension, bradycardia, hypoxemia, hypoxia, bradypnea	Hyporeflexia	Barbiturates, benzodiazepines, carbamazepine, carisoprodol, meperidine, phenothiazines, alcohol, zolpidem
Cholinergic	Confusion, coma	Miosis	Bradycardia, hypertension, hypotension, tachypnea, bradypnea	Salivation, urinary and fecal incontinence, diarrhea, emesis, diaphoresis, lacrimation, urticaria, bronchospasm, muscle fasciculations and weakness, seizures	Organophosphates and carbamate insecticides, nerve agents, nicotine, pilocarpine, physostigmine, edrophonium, Bethanecol, neostigmine
Seizure syndrome	Confusion, agitation, coma	Mydriasis	Hypertension, tachycardia, hypertension, tachypnea	Tremor, mydriasis, hyperreflexia, diuresis, diaphoresis, flushing, tremor, rigidity, diarrhea	MDA's alone or with: SSRIs, meperidine, desmethoxyflurazepam, TCAs, L-Dopa
Tricyclic antidepressant	Confusion, agitation, coma	Mydriasis	Hypertension, tachycardia, hypertension, tachypnea	Seizures, mydriasis, choreoathetosis, cardiac arrhythmias and conduction disturbances	Amitriptyline, nortriptyline, imipramine, doxepin, desipramine, doxepin

Poisoning management

- depends upon the specific poison(s) involved
- presenting and predicted severity of illness, and elapsed time between exposure and presentation.
- preventing poison absorption is more effective
- Treatment variably includes
 - supportive care
 - decontamination
 - antidotal therapy
 - enhanced elimination techniques

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Supportive care

- the most important aspect of treatment
- Airway protection by endotracheal intubation
- Hypotension should be managed initially with intravenous fluids
- Hypertension in agitated patients
 - sedatives such as a benzodiazepine
- Ventricular tachycardias
 - **lidocaine**
- Bradyarrhythmias associated with hypotension
 - **atropine** or temporary pacing

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Antidote

- Methylene Blue Injection
 - drug-induced methemoglobinemia
 - dose: 1 to 2 mg/kg (0.1 to 0.2 mL/kg of a 1% solution)
 - IV very slowly over several minutes
 - precautions
 - do NOT administer by subcutaneous or intrathecal injection
 - G6PD deficiency
 - renal impairment
 - Pregnancy Category :C(FDA)

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Antidote

- Cyanide Antidote Package
 - Amyl nitrite 0.3 ml/Amp. Sodium nitrite 300 mg/10 ml/ Amp. Sodium thiosulfate 12.5 g/50 ml/Amp
 - 0.3 mL ampul of amyl nitrite is crushed every minute and vapor is inhaled for 15-30 seconds until an I.V. sodium nitrite infusion is available.
 - Following administration of 300 mg or 10 mg/kg I.V. sodium nitrite 2.5-5ml every minute)
 - if needed, injection of both may be repeated at 1/2 the original dose

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Antidote

- Calcium Disodium (EDTA)
 - Lead poisoning
 - Lead poisoning (blood level 20-70 mcg/dL)
 - 1 g/m²/day IV infusion over 8-12 hr for 5 days
 - skip 2-4 days and repeat course as needed
 - MAX 75 mg/kg/day
 - lead nephropathy: 500 mg/m²
 - serum creatinine levels of 2-3 mg/dL: every 24 hr for 5 days
 - creatinine levels of 3-4 mg/dL, every 48 hr for 3 doses
 - creatinine levels above 4 mg/dL, once weekly; may be repeated at 1 month intervals
 - Pregnancy Category :B(FDA)

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Antidote

- Succimer (DMSA)
 - Lead poisoning: 10 to 30 mg/kg/day for 5 days
 - Precautions
 - not a substitute for effective abatement of lead exposure
 - compromised renal function
 - history of liver disease
 - Pregnancy Category :C(FDA)

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Algorithm for management of snake bites in the United States



Emergent management of anaphylaxis in adults

DIAGNOSIS IS MADE CLINICALLY:

Most common signs and symptoms are cutaneous (eg, urticaria, angioedema, flushing, pruritus). However, some patients have no skin findings.

Diaper signs: Rapid progression of symptoms, respiratory distress (eg, wheezing, increased work of breathing, persistent cough, stridor), persistent vomiting, hypotension, dysrhythmias, chest pain, syncope

ACUTE MANAGEMENT:

The first and most important therapy in anaphylaxis is epinephrine. There are **NO absolute contraindications** to epinephrine in the setting of anaphylaxis.

Airway: Immediate intubation if evidence of impending airway obstruction from angioedema; delay may lead to complete obstruction; intubation can be difficult; cricothyrotomy may be necessary.

Promote and simultaneously give:

IM Epinephrine (1 mg/ml preparation): Give aqueous epinephrine 0.3 to 0.5 mg intramuscularly, preferably in the mid-antecubital thigh; can repeat every 3 to 5 minutes as needed. If symptoms are not responding to epinephrine injections, prepare IV epinephrine for infusion (see below).

Place patient in recumbent position, if tolerated, and elevate lower extremities

Oxygen: Give 6 to 8 liters per minute via face mask, or up to 100 percent oxygen as needed

Normal saline rapid bolus: Treat hypotension with rapid infusion of 1 to 2 liters IV; repeat as needed; massive fluid shifts with severe loss of intravascular volume can occur

Also consider administration of:

Albuterol: For bronchospasm resistant to IM epinephrine, give 2.5 to 5 mg in 3 mL saline via nebulizer; repeat as needed

H1 antihistamine: Give diphenhydramine 25 to 50 mg IV (for relief of urticaria and itching only)

H2 antihistamine: Consider giving ranitidine 50 mg IV

Glucocorticoid: Consider giving methylprednisolone 125 mg IV

Continuous non-invasive hemodynamic and pulse oximetry monitoring should be performed

TREATMENT OF REFRACTORY SYMPTOMS:

Epinephrine infusion: For patients with inadequate response to IM epinephrine and IV saline, give epinephrine continuous infusion, 2 to 10 micrograms per minute by infusion pump. Titrate the dose continuously according to blood pressure, cardiac rate and function, and oxygenation, as assessed by continuous non-invasive monitoring.

Vasopressors: Patients may require vasopressors, given by infusion pump, with the doses titrated continuously according to blood pressure, cardiac rate and function, and oxygenation, as assessed by continuous non-invasive monitoring.

Glucagon: Patients on beta-blockers may not respond to epinephrine and can be given glucagon 1 to 2 mg IV over 5 minutes, followed by infusion of 5 to 15 micrograms per minute