POISON CONTROL
INFORMATION AND
MANAGEMENT -

Past, Present & Future
Singapore Pioneers in Poison Information Management

- Late Prof. Chao Tzee Cheng.
- Prof. Gopalakrishnakone.
- Dr. Bosco Bloodworth.
- Prof. Anantharaman.
- Dr. R. Ponnampalam.

Poisons information in Singapore.

Chao TC, Tay MK, Bloodworth BC, Lim KH.

Poisons Information Centre, Institute of Science and Forensic Medicine, Singapore.

Abstract
The Poisons Information Centre (PIC) provides viral and timely information to prevent and manage poisoning episodes. Comprehensive information on household, agricultural and industrial chemicals, natural toxins, pharmaceuticals, local antidote stocks and local poisons experts is retrieved from the Centre's computerised information system and printed literature. Public subscribers can obtain poisons information through Teleview.

PMID: 8363340 [PubMed - indexed for MEDLINE]
The need for enhanced drug and poison information resources. The local physician community also expect guidance and expert advice from a specialist.
Singapore Drug and Poison Information Service: User Satisfaction after Three Years

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ABSTRACT

Introduction: The Drug & Poison Information Centre (DPIC) is a part of Emergency Medicine at the Singapore General Hospital, Singapore General Hospital Development Program.

Objectives: A survey was conducted to evaluate the satisfaction of users with the quality of service provided by the DPIC as well as to identify any perceived and potential problems that need improvement.

Methods: A survey of a consecutive sample of 100 callers was developed based on a customer satisfaction survey and modified. The interview over 20 minutes about 1 week after their initial call was rated from excellent to poor. Items scored included ease of access, staff knowledge, and overall satisfaction.

Results: All the calls were perceived to be an emergency. 82% of the calls were answered immediately. 92% of callers found the experience with DPIC good, 10% fair and 8% rated it extremely bad. The following information was offered: signs and symptoms (85%), need to seek care in the Emergency Department (63%). 74% of callers found the information very useful, 26% found it somewhat useful and all the callers replied that they will call again for a future poisoning question or problem.

The DPIC was highly regarded for its speed, competence and applicability, facilitating better treatment and unnecessary emergency visits. There was overall satisfaction with the service provided by DPIC.
Are Poison Centres cost effective?

Direct public access to these services reduces the use of emergency health care resources, thus lowering health care costs.


The average additional cost per blocked call was $10.89 from a societal perspective, or $33.14 from a health care purchaser perspective.

Phillips KA et al. The costs and outcomes of restricting public access to poison control centers. Results from a natural experiment. Med Care 1998 Mar;36(3):271-80

The regional poison control center was substantially more cost-effective than the treatment of poison exposures without the services of a regional poison control center for both morbidity and mortality.


PCC provides large dollar savings compared to dollars received in state support.


The maximum annual cost attributable to unnecessary outpatient service utilization in Louisiana was estimated to be $1.4 million, an amount more than three times the annual poison control center state appropriation.


a 1% higher poison control center human poison exposure call rate was associated with a 0.19% lower hospitalization rate among people who visited emergency departments because of poisoning. If the observed association is causative, then 43.3 calls would prevent 1 hospital admission, yielding 7321 dollars in net cost savings and a return on investment of 5.9:1


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24 hour Clinics and Mobile / Housecall Doctors in Singapore
Clinics with Extended Hours

Useful Information:

Singapore General Hospital Drug and Poison Information Centre : Tel 6423 9119 (24 hours)

Go straight to listings under a Region


Mobile 24-Hour Doctor
World directory of poison centres, 1 July 2011
As to the future, although the 'epidemic' of serious acute poisoning of the 1960s and 70s appears to be past its peak, there will always be unusual and serious problems and the UK poisons information services must develop to make the best use of computer-based technology.

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Avoid adulterated herbal medicine

A TRADITIONAL Malay medicine used to treat rheumatism has been found to be adulterated with two "Western" ingredients which can lead to health problems like gastric bleeding.

The Health Sciences Authority (HSA) yesterday warned the public to avoid Pil Ajaib Cap Emas, Penguat Urat Saraf or Gold Brand Magic Pill, Nerve Strengthener, because it contains dexamethasone and indomethacin.

Indomethacin is an anti-inflammatory agent used for the treatment of joint pains and arthritis, and can cause gastric bleeding and blood disorders.

Dexamethasone is a steroid used in the treatment of allergic disorders and inflammatory conditions.

Prolonged consumption can cause problems including hypertension, osteoporosis and Cushing’s syndrome, a hormonal disorder caused by prolonged exposure of the body’s tissues to a high level of steroids.

The HSA started investigations after two patients contracted Cushing’s syndrome, which doctors suspected was connected to their use of the herbal medicine.

It said the product is not sold here and that patients had obtained it outside Singapore.

While the product has a Malaysian registration number, it is not approved in Malaysia.

Those who have consumed it can call the HSA on 6325-5604 during office hours.
SINGAPORE: The Health Sciences Authority (HSA), together with the police, have seized some 36,000 illegal sexual enhancement pills in a raid at Desker Road on Wednesday evening.

They included 'Power 1 Walnut', which has so far caused six people to develop very low blood sugar levels - a condition known as hypoglycaemia.

One of them is critically ill and under close observation in a hospital. Another five cases are pending confirmation.

If untreated in time, hypoglycaemia could lead to unconsciousness, seizures and sometimes death.

'Power 1 Walnut' contains two potent ingredients - glibenclamide and sildenafil. These are both powerful diabetes and erectile dysfunction drug respectively.
PETALING JAYA (THE STAR/ASIA NEWS NETWORK) - If a 'special' candy, chocolate or coffee carries steamy images on its packaging and a promise to turn you into some kind of 'superman', beware.

Syndicates are increasingly using food products and supplements to market active ingredients of prescription drugs like Cialis, Viagra and Levitra which are used to treat impotence in men.

Sweet and unsafe: A Pharmaceutical Services Division staff showing some confiscated products containing sexual performance enhancers like sildenafil. -- PHOTO: THE STAR

The ingredient drugs tadalafil, sildenafil and vardenafil can be harmful to health if taken without proper consultation and dosing and can even cause loss of vision, according to the Pharmaceutical Services Division of the Health Ministry.
Foreigners, Expat teenagers, including 13-year-old boy, among 17 arrested for allegedly using drugs

by Andre Yeo

04:46 AM Sep 08, 2011

A 13-year-old expatriate boy was one of several foreign teenagers arrested by the Central Narcotics Bureau (CNB) yesterday for allegedly using drugs.

The teenager was the youngest of 17 people nabbed. The oldest was 37. Several other teenagers, including girls, were also arrested in the raid.
Man alleged to have sold drugs to students charged

by Shaffiq Alkhatib

04:46 AM Sep 09, 2011

SINGAPORE - A man who allegedly sold drugs to several students from international schools was charged in a district court yesterday.

It is believed Selvam V Katorain, 37, had a block of vegetable matter, believed to be cannabis, in a flat at Block 510. Ang Mo Kio Avenue 8. on Wednesday morning.
Attempt to smuggle drugs hidden in sanitary pads foiled

SINGAPORE: The authorities have foiled another two attempts by women to smuggle drugs hidden in sanitary pads.

The Central Narcotics Bureau (CNB) and Immigration Checkpoints and Authority (ICA) arrested the women and seized the drugs at Woodlands Checkpoint.

The first arrest was made on Saturday afternoon after ICA officers stopped a Malaysian registered 'pirate' taxi at the car arrival bay.
Taxi driver rams 5 cars and 5 ComfortDelGro taxis in spree

Cabby, 50, nabbed after two-hour rampage believed to have been on drugs

By Royston Sim

A taxi driver believed to have been under the influence of drugs went on a rampage, smashing into 10 cars while driving across Singapore before police finally arrested him in Boon Lay.

The Trans-Cab driver was nabbed at the junction of Boon Lay Drive and Boon Lay Avenue, after a hit-and-run spree that began in the eastern part of Singapore on Monday night.

The first incident took place at around 9.15pm in Tampines, while the final incident occurred nearly two hours later, at 11.05pm. The accidents spanned the island from east to west in at least seven locations: Tampines Avenue 5, Sims Avenue and Kallang Road.
Central Narcotics Bureau (CNB) officers nabbed 1,079 heroin abusers in 2009 - a 22 per cent jump from 2008. They made up almost 60 per cent of the total 1,876 drug abusers caught in 2009. -- ST PHOTO: STEPHANIE YEOW

HEROIN abuse in Singapore continues to rise for the fourth year running, even as the drug situation has improved.
CNB makes largest heroin bust since 2008

Suspected syndicate leader arrested

05:55 AM Oct 09, 2010

SINGAPORE - The Central Narcotics Bureau (CNB) has made its largest heroin bust since 2008.

CNB officers seized 4.68 kg of heroin with a street value of $702,000 in an operation on Thursday morning.

The suspected leader of a local drug syndicate and two other men were arrested.

The CNB said it mounted the operation following a tip-off that a drug transaction would be taking place.

The syndicate leader was seen leaving his flat in Commonwealth Close at around 9am.

He went to Kitchener Road, where he handed over an envelope to a 56-year-old man. Both were arrested.

The envelope contained about $3,000.

The second man then led CNB officers to his rented car, where approximately 16g of heroin was found.

The drug syndicate leader's car was also searched and about 600g of heroin was recovered.

In the follow-up raid on the drug syndicate leader's flat, a 38-year-old male was arrested.
Most abusers on heroin, Ice

Both also accounted for bulk of $5.9m worth of drugs seized in half-year

By Mavis Toh

Helping repeat offenders kick habit

SEVEN in 10 of all drug abusers arrested last year were repeat offenders.

To battle the issue of re-offending among drug addicts, changes will be made to the way halfway houses are run and funded.

Most of them now have a religious focus, but will soon concentrate on helping their residents, many of whom are ex-drug abusers, to find jobs and housing and reconnect with their families.

Methamphetamine (Ice) and Heroin continue to be the drugs of choice in the seized $5.9 million worth of drugs in the first six months of this year. -- PHOTO: ICA
The driver for change

new compounds are used as drugs because they fall outside legislation

the law catches up

The consequence is that vulnerable young people are exposed to a succession of compounds that have never been tested for safety
The symptoms had come on suddenly after he and his girlfriend, had tried a new synthetic heroin. Though the drug had caused an odd burning sensation when injected and hallucinations, they continued to use it for three days; two days later both had frozen into living statues.
Phenethylamines I have known and loved

Tryptamines I have known and loved
SYNTHESIS: A solution of 5.8 g of homosyringonitrile (see under E for its preparation), 100 mg decyltriethylammonium iodide, and 13.6 g allyl iodide in 50 mL anhydrous acetone was treated with 6.9 finely powdered anhydrous K2CO3 and held at reflux for 16 h. The color changed from a near-black to a light yellow. The mixture was filtered, the solids washed with acetone, and the solvent from the combined filtrate and washes removed under vacuum. The residue was suspended in acidified H2O, and extracted with 3x100 mL CH2Cl2. The pooled extracts were washed with 2x50 mL 5% NaOH, once with dilute HCl (which lightened the color of the extract) and then stripped of solvent under vacuum giving 12.4 g of an amber-colored oil. This was distilled at 125-137 deg C at 0.1 mm/Hg to yield 5.7 g of 3,5-dimethoxy-4-allyloxyphenylacetanilide as a yellow oil. Anal. (C13H15NO3S) C,H.

A suspension of 4.0 g LAH in 150 mL anhydrous THF under N2 was cooled to 0 deg C and vigorously stirred. There was added, dropwise, 2.8 mL 100% H2SO4, followed by 5.5 g 3,5-dimethoxy-4-allyloxyphenylacetanilide in 10 mL anhydrous THF. The reaction mixture was stirred at 0 deg C for a few min, then brought to a reflux on the steam bath for 30 min. After cooling back to room temperature, there was added sufficient IPA to destroy the excess hydride, followed by sufficient 10% NaOH to form granular solids. These were removed by filtration, and washed with 20 mL IPA. The filtrate and washes were stripped of solvent under vacuum and the residue added to 100 mL dilute H2SO4. This was washed with 2x50 mL CH2Cl2, made basic with aqueous NaOH, and extracted with 2x75 mL CH2Cl2. These extracts were pooled, the solvent removed under vacuum, and the residue distilled at 110-120 deg C at 0.4 mm/Hg to give 4.9 g of a colorless oil. This was dissolved in 15 mL IPA, neutralized with concentrated HCl (55 drops required), and diluted with 50 mL Et2O. The product was removed by filtration, washed with Et2O, and air dried to give 4.9 g of 3,5-dimethoxy-4-allyloxyphenethylamine hydrochloride (AL) as white crystals.

DOSAGE: 20 - 35 mg.

DURATION: 8 - 12 h.

QUALITATIVE COMMENTS: (with 24 mg) I first became aware of something in about 10 minutes, a pleasant increase in energy. By 20 minutes it was getting pronounced and was a nice, smooth development. During the next hour positive and negative feelings developed simultaneously. Following a suggestion, I ate a bit of food even though I had not been hungry, and to my surprise all the negative feelings dropped away. I felt free to join the others wherever they were at. I moved into the creative, free-flowing kind of repertoire which I dearly love, and found everything enormously funny. Much of the laughter was so deep that I felt it working through buried depressions inside me and freeing me. From this point on, the experience was most enjoyable. The experience was characterized by clear-headedness and an abundance of energy which kept on throughout the day and evening. At one point I went out back and strolled along to find a place to worship. I had a profound sense of the Presence and great love and gratitude for the place, the people, and the activities taking place. The come-down from the experience was very gradual and smooth. Food tasted wonderful. I went to bed late, and quite ready for bed, although the energy was still running. However, sleep was not long in coming. (with 24 mg) The onset was extremely gradual and graceful, with the first alert that one could really sense at about 50 minutes. This was succeeded by a slow gentle climb to the peak at one hour and fifteen minutes. The experience itself left all of the sensory modalities functional; speech was cogent and rather fluid. In fact, there was an unusual ease of free association. All throughout the session, the talk was high in spirits and somehow indicative of an inner excitement. Affect was entirely pleasant, but not exalting nor conducive to insight or to problem solving. There were no requirements for withdrawal into the self. The material seemed wholly
Back to the legal drug scene ..

Tobacco additive
$\Delta^9$-THC and three synthetic cannabinoids

$\Delta^9$-THC  

HU-210  

CP 47,497  

JWH-018
Substituted piperazines

BZP

$m$CPP

Substituted cathinones

Cathinone

Miscellaneous synthetic drugs

Bromodragonfly
The poison is in the dose
1,4-Butanediol (BDO)

Place of Origin: China
Related Keywords: 1,4-Butanediol BDO, BDO, 1,4-BDO, GBL

Contact Information
Anhui Hreeman Co., Ltd
Membership Type: Free member
Registration Date: 2009-04
Country/Region: China
city: Anhui
Contact: jory (Mr.)

See Larger Picture: 1,4-Butanediol (BDO)
Add to Basket
Poisoning from chemicals is a significant risk in all countries.

Some countries already have well established facilities for the prevention and control of poisoning, many wish to establish or strengthen such facilities, and others have not yet fully recognized the extent of the risk.
Situation as at 1 July 2011

Only 46% of WHO Member States had a poison centre
Definition, Role of Poison Centre

- Provision of toxicological information
- Management of poisoning cases,
- Laboratory analytical services
- Toxicovigilance activities,
- Research,
- Education and training

In association with other responsible bodies, role in developing contingency plans for chemical disasters,
- Monitoring the adverse effects of drugs,
- Handling problems of substance abuse

Information service

Should be available 24/7
Staff
Location, facilities and equipment
Financial aspects

Education & Research
The main function of a poison information centre is to provide information and advice concerning the Diagnosis, prognosis, treatment, chemicals and the risks they pose.
Two instances of Chinese herbal medicine poisoning in Singapore

Phua D H, Cham G, Seow E

ABSTRACT

*Datura metel* L. (Yangjinghua, 洋金花) is a toxic herb that contains anticholinergic compounds. Inappropriate consumption of this herb could result in anticholinergic poisoning. Clinical features of such poisoning have not been previously described. We report two such cases. Both patients had taken brews of *Datura metel* L; and developed poisoning soon afterwards. Prominent clinical features included confusion, dilated pupils, absence of sweating, and the absence of sluggish bowel sounds. No flushing of the face or skin was detected in either case. Both patients recovered fully within 12 hours with supportive measures, and no gastric elimination or antidote was used. The different names ascribed to *Datura metel* L. in Chinese
Fatal chloroquine poisoning: a rare cause of sudden cardiac arrest.

Philips C, Chan K, Tan F, Ponnamapalam R.


Stonefish envenomation presenting to a Singapore hospital.

Noo AY, Ong SH, Ponnamapalam R

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Abstract

INTRODUCTION: Stonefish, belonging to the genus Synanceia and classified under the Synanceiidae family, are commonly found in the shallow waters of the Indopacific region and are considered the most dangerous and venomous of this family. The aim of the study was to describe the presenting features, clinical course and current management of this series of patients with stonefish envenomation presenting to a tertiary general hospital in Singapore.

METHODS: Data involving stonefish stings was retrospectively retrieved from the Singapore General Hospital Accident & Emergency Emerg Version 3.7.6 database from October 2004 to September 2006. Information, such as the patients' demographics, date and location of the incident, identity of the fish, local or systemic effects, pain score (upon arrival and after treatment), investigations and treatment as well as the outcome of the patients, were evaluated.

RESULTS: 30 cases were identified. The median age of the patients was 28 years. The majority of patients were male (80 percent) and 47 percent of cases were foreign nationals. Most incidences occurred on weekends/public holidays (77 percent), with November having the highest number of cases (seven cases). The majority of cases (80 percent) arrived at the hospital within two hours of envenomation. Symptoms included extreme pain, swelling and redness of the affected limbs. 24 (80 percent) patients received hot water soak treatment and 27 (90 percent) patients received either intramuscular pethidine or diclofenac for analgesia, where nine patients (33 percent) required additional analgesics after a period of observation. 17 patients (59 percent) were treated and discharged, eight (26 percent) were referred to a specialist for follow-up and five (16 percent) were admitted for an average of three days. 13 out of 25 patients (52 percent) were discharged with antibiotics. One case complained of persistent pain and hyperalgiesia five months post-envenomation. One patient required surgical intervention. No deaths and systemic symptoms were reported.

CONCLUSION: Cases of stonefish envenomation that presented to our hospital showed that the majority of patients were young male adults. Stonefish envenomation, though rarely kills, can cause extreme pain, swelling and erythema, which can be managed with symptomatic treatment.


Chlorine and its impact on an emergency department.

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Abstract

INTRODUCTION: An incident involving the release of chlorine gas from the pump room at a local swimming pool resulted in 54 patients seeking treatment in the emergency departments (EDs) of two local, tertiary-level hospitals in Singapore. The hospital hazardous materials (HAZMAT) disaster plan was activated. This report describes how one of the EDs organized in response to the disaster. EVENT: Of the 54 people seeking treatment, 36 were treated in the ED at the Singapore General Hospital. The patients were decontaminated at shower facilities prior to entering the ED. The ED was reorganized to cope with existing patients, as well as the large influx of patients from the event site. A protocol was established in coordination with the local drug and poison information center to manage the patients who suffered from chlorine inhalation. Most patients were observed in the ED and subsequently discharged. Outpatient review appointments were scheduled. INJURIES: Acute respiratory symptoms were the most common
Stonefish Envenomations of the Hand – A Local Marine Hazard: A Series of 8 Cases and Review of the Literature

JYL Lee, MBCh, M Med (Surg), MRCS (Edin), LC Teoh, M Med (Surg), FRCS (Glas), FAMS, SPM Leo, MBBS

Abstract

**Introduction:** The Singapore shoreline has changed significantly in recent years, but the stonefish (*Synanceia sp.*) continues to inhabit our native waters and human envenomation still occurs regularly. In this paper, we document their clinical course, review our management experience and propose a treatment algorithm. **Clinical Picture:** Envenomation is associated with appreciable local morbidity, excruciating pain and gross oedema of the affected limb. Severe systemic morbidity and deaths have been reported in the literature but are very rare. **Treatment:** Prompt first aid with immersion in hot water (45°C) inactivates the venom. Supplementary analgesia, tetanus prophylaxis and broad-spectrum antibiotics are recommended. Specific anti-venom is available and indicated for severe envenomations with systemic symptoms. Complicated puncture wounds and retained spines require surgical debridement. **Outcome:** Eight cases of stonefish envenomations to the hand were treated over the last 1.25 years (October 2001 to January 2003). Length of hospital stay averaged 3.9 days. There were no deaths or significant systemic morbidity, but 1 case required surgical debridement for local necrosis. Complete resolution of swelling, with return to full function, occurred on average by 8.2 days. **Conclusions:** Prompt recognition of envenomation, early first aid and hot water soaks result in rapid relief of pain and symptoms. Our local experience suggests that the majority of stonefish envenomations do not result in significant or protracted morbidity and require only supportive management. Systemic morbidity and mortalities are rare.
PUFFER FISH (TETRODOTOXIN) POISONING: CLINICAL REPORT AND ROLE OF ANTI-CHOLINESTERASE DRUGS IN THERAPY

SYNOPSIS

Various species of the puffer fish are commonly found in the coastal waters of Singapore, but poisoning by their ichthysosarcotoxin, tetrodotoxin, from ingestion is rare. There is no known specific antitoxin or antidote and treatment has so far been purely symptomatic and supportive. A case report is presented and an observation was made that rapid recovery of muscle power was seen after administration of an anti-cholinesterase drug. The concept of a competitive reversible block of tetrodotoxin, not only at the motor axon and muscle membrane, but at the motor end-plate as well, is proposed.

INTRODUCTION

Puffer poisoning is the best known of all types of fish poisoning and has been recognised from ancient times. It is probably the most common fish poisoning along the coasts of Asia. The puffer fish is also variously known as toadfish, blowfish, globefish, swellfish and balloonfish. All belong to the Order Tetraodontiformes.

The poison is called tetrodotoxin (TTX) and poisoning is caused by eating improperly prepared fish. The symptoms include paresthesia of the mouth, followed by rapid salivation, bradycardia, weakness and paralysis. The symptoms are due to blockage of depolarizing synaptic transmission, which is fully reversed by anticholinesterase drugs.
Significant Cross-reactivity is present

Fig. 1. Distribution of the 10 species of Asiatic cobra.

Note in particular the existence of several areas of widespread sympatry between different species pairs, such as *Naja kaouthia* and *N. siamensis* in Thailand, Cambodia and Vietnam, *N. kaouthia* and *N. sumatrana* in northern Malaysia and southern Thailand, *N. kaouthia* and *N. naja* in northeastern India and *N. naja* and *N. oxiana* in northwestern India and Pakistan.
The structure of the venom gland of stonefish Synanceja horrida.

Gopalakrishnakone P, Gwee MC.
Department of Anatomy, National University of Singapore, Kent Ridge.

Abstract
The structure of the venom gland of stonefish Synanceja horrida was studied using light microscopy, and transmission and scanning electron microscopy. The glands were covered with a fibrous capsule which divided the glandular tissue into many septa which carried numerous nerves and blood vessels. Transmission electron microscopy showed Type I cells with electron-dense material and tubular cisterns, Type II cells with dilated cisterns, sarcoplasmic reticulum and dense secretory granules. The secretory granules were globular and seen in monomer or polymer form. The secretory cells appear to be unique in comparison with the venom gland cells of snakes, scorpions or spiders.


Effects of topical heparin, antivenom, tetracycline and dexamethasone treatment in corneal injury resulting from the venom of the black spitting cobra (Naja sumatrana), in a rabbit model.

Cham G, Pan JC, Lim F, Earnest A, Gopalakrishnakone P.
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Abstract
BACKGROUND: The Naja sumatrana cobra can spit venom in defense and may result in permanent blindness. The study sought to determine the efficacy of topical heparin, Haffkine antivenom, tetracycline and dexamethasone.

MATERIALS AND METHODS: Male New Zealand White Rabbits were used. Pooled venom was frozen at -30 degrees C. 0.05 mL of 20 times dilute venom was introduced into the conjunctiva, in groups of three rabbits randomly. Heparin at 5000 IU/mL, Haffkine antivenom or saline control was administered repeatedly on each rabbit’s eye over 158 minutes, after a specified delay. In other groups, 1% tetracycline, 0.1% dexamethasone or a placebo ointment was applied and repeated at 24 and 48 hours. All the rabbits were assessed after 24, 48, 72 hours, one and two weeks by an ophthalmologist blinded to the treatment arms.
Phenelzine-induced myocardial injury: a case report.

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**Abstract**

**INTRODUCTION:** Phenelzine is an irreversible monoamine oxidase inhibitor (MAOI). Hypertensive reactions after ingestion of tyramine-rich foods such as cheese are well known. However, a review of the available medical literature found no previous reports of myocardial infarction resulting from the ingestion of cheese by a patient taking a MAOI.

**CASE REPORT:** A 34-year-old female taking phenelzine for depression developed severe chest pain 1 h after eating cheese. She was hypertensive and the electrocardiography showed ischemic changes in the antero-lateral chest leads. The chest pain and elevated blood pressure were relieved with intravenous morphine and nitroprusside. The initial serum troponin I level was normal, but serial repeat levels showed a rising trend with a peak at 4.89 μg/L (reference range <0.05 μg/L) 6 h after the initial blood draw, suggestive of a non-ST elevation myocardial infarction. The patient subsequently developed hypotension 4 h after another therapeutic dose of phenelzine was served to the patient 4 h after her admission to the ED. This was corrected with at least 2 L of intravenous normal saline boluses. Subsequent EKGs and Sestamibi scan showed no evidence of cardiac ischemia. She was discharged home after a hospital stay of 3 days.

**DISCUSSION:** We believe this to be the first reported case of myocardial infarction resulting from ingestion of cheese in a patient taking a MAOI. It might be expected that hypertensive crisis could lead to a myocardial infarction, but a review of the medical literature found no such cases reported.
Should a benzodiazepine antagonist be used in unconscious patients presenting to the emergency department?

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Abstract

Patients in coma with suspected drug poisoning are commonly encountered in the emergency department. Benzodiazepines are one of the most commonly used drugs in self-poisoning. Flumazenil, a benzodiazepine antagonist has been suggested as a diagnostic and treatment tool in suspected poisoning of unclear cause, but caution is required due to potential side effects. No systemic review of this literature has been done on this topic.

OBJECTIVES: The aim of this study is to examine if flumazenil should be used in patients with coma from suspected drug poisoning.

SEARCH STRATEGY: Randomised controlled trials were identified from the Cochrane Library, Pubmed and EMBASE. Bibliographies from included studies, known reviews and texts were searched. Content experts were contacted.

SELECTION CRITERIA: Randomised controlled trials were eligible for inclusion. Studies were included if patients who presented with altered mental state from suspected drug poisoning were treated with intravenous flumazenil as compared to placebo.

DATA COLLECTION AND ANALYSIS: Data were extracted and methodological quality was assessed independently by two reviewers.

MAIN RESULTS: Seven randomised controlled trials were included. A total of 466 patients were involved. Flumazenil was found to reverse coma from suspected drug poisoning with a relative benefit of 4.45 (95% CI 2.65, 7.45). In terms of major side effects, there was no statistical difference between flumazenil and placebo (RR 2.86, 95% CI 0.12-69.32). However, in terms of minor side effects, flumazenil was associated with a higher incidence of anxiety (RR 2.84, 95% CI 1.28-6.30) and other side effects (RR 3.73, 95% CI 2.078-6.73). There was no difference in the incidence of vomiting (RR 4.28, 95% CI 0.95-19.35).

CONCLUSION: Current evidence shows that flumazenil may be effective in the reversal of coma in patients presenting to the emergency department with coma from suspected drug poisoning.
A systematic review of cardiovascular effects after atypical antipsychotic medication overdose.

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Abstract
As the use of atypical antipsychotic medications (AAPMs) increases, the number of overdoses continues to grow. Cardiovascular toxicity was common with older psychiatric medications but seems uncommon with AAPM. We conducted a systematic literature review to describe the cardiovascular effects reported after overdose of 5 common AAPM: aripiprazole, olanzapine, quetiapine, risperidone, and ziprasidone. We included case reports and case series describing overdose of these 5 medications identified in a search of MEDLINE, EMBASE, and abstracts from major toxicology meetings. We found 13 pediatric cases (age, <7 years), 22 adolescent cases (age, 7-16 years), and 185 adult cases. No pediatric case described a ventricular dysrhythmia or a cardiovascular death. In the adolescent and adult cases, we found numerous reports of prolonged corrected QT interval and hypotension, but there were only 3 cases of ventricular dysrhythmia and 3 deaths that may have been due to direct cardiovascular toxicity. The results from case series reports were similar to the single case report data. Our review suggests that overdose of AAPM is unlikely to cause significant cardiovascular toxicity.

PMID: 19497468 [PubMed - indexed for MEDLINE]  PMCID: PMC2759317  Free PMC Article

Toxicology today.

Tan HH, Goh SH.

PMID: 17139394 [PubMed - indexed for MEDLINE]  Free full text
Staff

“Poison information specialist”
Medical personnel from
emergency
Intensive care
Treatment units
Administration
Teaching and training

Training of medical Practitioners
Professional health workers
Mass media
Clinical services

Should be closely linked to the information service
Clinical toxicologists

A poison information centre (including training in preparing documents, collecting information, replying to enquiries recording case data, and follow-up of cases.

A clinical toxicology unit, emergency department, or intensive care unit where poisoned patients are treated.

A toxicological laboratory, where a practical understanding of sampling and analytical methods and of the medical interpretation of the results of analyses is provided.
Poison Information Specialists, Clinical toxicologists

Nurture the organisation

Nurtured by the organisation
Analytical toxicology and other laboratory services

Basic

Comprehensive analysis
Toxicovigilance

It is the active process of identifying and evaluating the toxic risks existing in a community and evaluating the measures taken to reduce or eliminate them.
Toxicovigilance and prevention of poisoning

Toxicovigilance and prevention programmes.

School of Public Health
Prevention

Alerting responsible authorities-preventive measures
User of toxic chemicals to the risk involved
Introducing codes of practice
Legislation to control the labelling of toxic products
Special packing-substances and modification or withdrawal of products from the market.
Response to major emergencies involving chemicals/biologicals

Information
Treatment
Contingency planning
Follow-up studies
Financial support
Collaboration between centres:
DSO, DMERI, Civil Defence, MHA, A&E
Antidotes, antivenom and their availability

DATA BASE on:
Scientific aspects
Technical aspects
Economic aspects
Registration and administrative requirements
Considerations of time and geography
Specific problems of developing countries
Improving stocking, availability & distribution
Toxinology resources on the Internet: Virtual Venom and Toxin Research and Information Centre.

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Venom and Toxin Research Group, Faculty of Medicine, National University of Singapore.

Abstract
Electronic information in the 'Internet' is exploding day-by-day. This article reviews the important databases and information on toxinology available on the Internet.

PMID: 9481809 [PubMed - indexed for MEDLINE]
Challenges ahead

An innovative structure. Contribution form various agencies is recognised. Overcome territorial boundaries. Harness communication & information technology.
FUTURE DIRECTIONS:
1) Establishment of PIC’s.
2) Establishment of networks.
3) Regional collaborations.
4) International collaborations.
5) WHO, IPCS, CCOHS.
6) Training of personnel.
7) Toxicology research.
8) Public education.