POISONS ©
INFORMATION CENTRE OF IRELAND

NEWSLETTER

2016 marked the 50th anniversary of the formation of the National Poisons Information Centre (NPIC) and we were delighted to host a number of events to celebrate the occasion with our colleagues from both the UK and Ireland.

The NPIC was established at the Charitable Infirmary in Jervis St. with Dr Joseph Woodcock, Consultant Anaesthetist as the first Medical Director. He established a strong working relationship with the Poisons Service at Guy's Hospital, London and close links with the UK NPIS continue 50 years later. The early mandate of the Poisons Centre was "to provide information to medical practitioners on the composition, fatal dose, symptoms and known treatment of poisonous substances and materials that might cause concern". Since then we have expanded our services to also provide outreach activities and advice to members of the public on poisons awareness and safety in both home and industry.

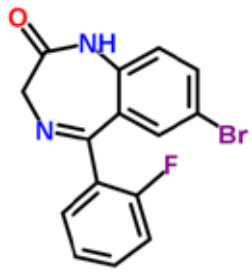
Dr Edel Duggan, NPIC Medical Director (front ctr) with colleagues from the NPIC and UK NPIS.

As part of our 50th anniversary celebrations we hosted a toxicology symposium at the annual meeting of the Intensive Care Society of Ireland in June. We were honoured to have a number of international speakers at the toxicology symposium including Prof Bruno Megerbane, President of EAPCCT*, Prof Donna Seger, Vanderbilt University Medical Center, Prof Phil Routledge, Cardiff School of Medicine, and guest speakers from the 2016 SMACC Conference held in Dublin this year.

In December we held a Poisons Awareness Day launched by Minister of State for Disabilities Finian McGrath TD. A lunchtime presentation event was attended by over 80 colleagues and guests in Beaumont Hospital. In addition, Poisons Awareness guidelines and activity packs were distributed to over 70 creches and playschools around the country.

**European Association of Poisons Centres and Clinical Toxicologists*

"Designer" benzodiazepines



A 27 year old man with known previous use of recreational drugs was admitted to hospital with a GCS of 3/15, respiratory rate of 6-8 breaths/min and bilateral pinpoint unreactive pupils. He had generalized hypotonia, diminished reflexes and absent plantar response. Naloxone (0.4mg) was administered with no response. Serum CK on admission was 15,960U/L. Blood pressure was 80/40 but improved to 120/80 following administration of noradrenaline (0.12mcg/kg/min). He was in sinus rhythm with HR 102 bpm. Brain CT was normal. His urine toxicology screen was positive for benzodiazepines so he was given flumazenil (0.5mg IV repeated after 3 minutes). His GCS improved to 10/15 but deteriorated again to 3/15 after 30 minutes. He was not given any further doses of flumazenil and he remained intubated and ventilated until day 4 post-ingestion. A repeat brain CT showed hypoxic-ischemic changes. He was transferred out of ICU 9 days after admission. Following recovery he confirmed that he had taken 3mg of flubromazolam that he bought online. 48 hours previously he had taken 2mg with phencyclidine; he felt very sleepy and woke up 10hrs later.

Recreational misuse of benzodiazepines is not a new phenomenon but in recent years newer designer benzodiazepines have become readily available for purchase on the internet. These benzodiazepine analogues such as diclazepam, pyrazolam, clonazolam and flubromazolam are widely used as recreational psychoactive drugs. They are available as tablets, powders, and blotters and they appear to be much more potent than the parent drugs they are derived from. Users report significant sedative effects from relatively low doses; as little as 0.1-0.2mg of flubromazolam has been reported to cause drowsiness. Higher doses can cause severe CNS depression with respiratory depression. Flumazenil can reverse some of the sedative effects of benzodiazepines but it is contraindicated in mixed drug overdoses because it may precipitate seizure activity and ECG changes. Treatment is primarily supportive care with attention to respiratory rate in patients who are showing signs of CNS depression. Intubation and ventilation may be required in severe case.

Further Reading:

£ukasik-G³êbocka M, Sommerfeld K, Te¿yk A, Zieliñska-Psuja B, Panieński P, ¯aba C. Flubromazolam-A new life-threatening designer benzodiazepine. Clin Toxicol (Phila). 2016; 54 (1): 66-8

Moosmann B, King LA, Auwärter V. Designer benzodiazepines: A new challenge. World Psychiatry 2015; 14: 248.

Euro-DEN (European Drugs Emergency Network)

The Euro-DEN network was established in 2013 with the aim of gathering data about acute harm associated with illicit/recreational drugs and the so-called new psychoactive substances (NPS). Information was gathered from a network of 20 hospitals around Europe over a 2 year period from Oct 2014 –Sep 2015 and preliminiary findings were reported in August 2016. There were 10,956 Emergency Department presentations over the period of data collection. In most cases patients were discharged quickly but a small number of cases involved severe toxicity and some fatalities were reported in this cohort. The largest number of presentations were seen in Oslo (29%) and London (17%). Two hospitals in Ireland contributed to the data and reported 9% of presentations. The Euro-DEN project has continued after the initial study period; more information is available from the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) http://www.emcdda.europa.eu

- **Heroin** was the most common drug and was involved in 24% of presentations. Features reported in these cases included coma, low respiratory rate, agitation and hypotension.
- **Cocaine** and **cannabis** were both involved in 16% of presentations (n=1806 & n=1741 respectively). Features reported with cocaine included anxiety, chest pain, palpitations, and agitaiton. Features reported with cannabis included anxiety, agitation, vomiting and palpitations.
- **NPS** were involved in 7% of cases and the majority of these cases involved a cathinone (eg mephedrone). Features reported included agitation, anxiety, palpitations and chest pain. Between year 1 & 2 there was also a significant increase in cases involving synthetic cannabinoid receptor antagonists (SCRAs).
- **Opioids and Benzodiazepines/"z"-drugs** were the most common prescription medicines, particularly methadone and buprenorphine. In Ireland, clonazepam was the most common benzodiazepine.

Clinical features associated with illicit drugs:

Agitation/aggression (>25%)	
Anxiety	Hypotension
Tachcyardia	Headache
Vomiting	Hypertension
Coma at presentation	Seizures
Palpitations	Cerebellar features
Chest pain	Hyperthermia
Hallucinatinos	

Further Reading: Vallersnes OM, *et al* Psychosis associated with acute recreational drug toxicity: a European case series. BMC Psychiatry 2016 Aug 18; 16:293

Tait RJ *et al*. A systematic review of adverse events arising from the use of synthetic cannabinoids and their associated treatment. Clin Toxicol (Phila). 2016; 54(1):1-13

limited use in acute poisoning

Intravenous Lipid Emulsion-
limited use in acute poisoning

A workgroup of over 2 dozen experts in the field of clinical toxicology recently published their final recommendations on Intravenous lipid emulsion (ILE) as an antidote for poisoning. They reviewed the available literature and assessed likely benefit from ILE for local anaesthetic (LA) poisoning, ILE for other acute poisonings, laboratory interferences associated with ILE , and adverse events associated with ILE. They report that there is an absence of evidence to support it's use in most poisonings.

They recommended using ILE for the managemnt of cardiac arrest due to bipivacaine toxicity but they do not recommend it as first-line therapy for other drugs. If other therapies fail, it may be useful for toxicity due to amitriptyline, buporopion and other LA's. The optimal dose and duration of therapy have not been validated in a clinical setting however the most common regimen is 1.5mL/kg of Intralipid ® 20% followed by an infusion of 0.25mL/kg/min.

Gosselin S, *et al* Evidence-based recommendations on the use of intravenous lipid emulsion therapy in poisoning. Clin Tox. 2016; 54 (10): 899-923

Poisons Awareness Day
8th December 2016

Pictured at our Poisons Awareness Day held to coincide with the launch of new educational materials for children are Minister Finnian McGrath TD,with (from left) Prof David Williams, Consultant in Stroke Medicine; Dr Phil Jennings, Director of Public Health/Child Health Lead in the HSE, Dr Edel Duggan, Clinical Director of the NPIC and Prof. Alf Nicholson, Clinical Lead in Paediatrics.

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