



# The American Academy of Clinical Toxicology

Uniting scientists and clinicians in the advancement of research, education, prevention and treatment of diseases caused by chemicals, drugs and other toxins.

## American Academy of Clinical Toxicology Special Interest Group on Herbs & Dietary Supplements Abstracting Service

May 29, 2011

1. Skinner R, Conlon L, Gibbons D, McDonald C. Cannabis use and non-clinical dimensions of psychosis in university students presenting to primary care. *Acta Psychiatr Scand.* 2011;123(1):21-7.

OBJECTIVE: To explore the relationship between cannabis use and self-reported dimensions of psychosis in a population of university students presenting for any reason to primary care. METHOD: One thousand and forty-nine students attending the Student Health Unit, National University of Ireland, Galway, completed self-report questionnaires on alcohol and substance misuse, non-clinical dimensions of psychosis [Community Assessment of Psychic Experiences (CAPE)], anxiety and depression [Hospital Anxiety and Depression Scale (HADS)]. Association of cannabis use with psychiatric symptoms was explored whilst controlling for confounds. RESULTS: More frequent cannabis use was independently associated with greater intensity of positive, negative and depressive psychotic symptoms. The earlier the age of onset of cannabis use, the more positive psychotic symptoms were reported. CONCLUSION: These findings support the hypotheses that cannabis use increases the risk of developing psychotic symptoms and that this risk is further increased in those individuals who use cannabis more heavily and commence it at a younger age.
2. Kuepper R, van Os J, Lieb R, Wittchen HU, Hofler M, Henquet C. Continued cannabis use and risk of incidence and persistence of psychotic symptoms: 10 year follow-up cohort study. *BMJ.* 2011;342:d738.

OBJECTIVE: To determine whether use of cannabis in adolescence increases the risk for psychotic outcomes by affecting the incidence and persistence of subclinical expression of psychosis in the general population (that is, expression of psychosis below the level required for a clinical diagnosis). DESIGN: Analysis of data from a prospective population based cohort study in Germany (early developmental stages of psychopathology study). SETTING: Population based cohort study in Germany. PARTICIPANTS: 1923 individuals from the general population, aged 14-24 at baseline. MAIN OUTCOME MEASURE: Incidence and persistence of subthreshold psychotic symptoms after use of cannabis in adolescence. Cannabis use and psychotic symptoms were assessed at three time points (baseline, T2 (3.5 years), T3 (8.4 years)) over a 10 year follow-up period with the Munich version of the composite international diagnostic interview (M-CIDI). RESULTS: In individuals who had no reported lifetime psychotic symptoms and no reported lifetime cannabis use at baseline, incident cannabis use over the period from baseline to T2 increased the risk of later incident psychotic symptoms over the period from T2 to T3 (adjusted odds ratio 1.9, 95% confidence interval 1.1 to 3.1; P=0.021). Furthermore, continued use of

cannabis increased the risk of persistent psychotic symptoms over the period from T2 to T3 (2.2, 1.2 to 4.2; P=0.016). The incidence rate of psychotic symptoms over the period from baseline to T2 was 31% (152) in exposed individuals versus 20% (284) in non-exposed individuals; over the period from T2 to T3 these rates were 14% (108) and 8% (49), respectively. CONCLUSION: Cannabis use is a risk factor for the development of incident psychotic symptoms. Continued cannabis use might increase the risk for psychotic disorder by impacting on the persistence of symptoms.

3. Yoon YH, Choi SH, Cho HJ, Moon SW, Kim JY, Lee S. Reversible pancytopenia following the consumption of decoction of *Ganoderma neojaponicum* Imazeki. *Clin Toxicol (Phila)*. 2011;49(2):115-7.  
The *Ganoderma* species are mushrooms used for herbal medicinal purposes in northeast Asia. Two cases of simultaneous reversible pancytopenia following the consumption of decoction of *Ganoderma neojaponicum* Imazeki are presented. Other than decoction of *G. neojaponicum* Imazeki no cause of pancytopenia could be identified. The patients recovered fully after conservative treatment. People who consume herbal medicines are often not aware of their side effects. Patients should be knowledgeable regarding the possible side effects of *Ganoderma* prior to its consumption.
4. Dursun N, Taskin E, Yerer Aycan MB, Sahin L. Selenium-mediated cardioprotection against adriamycin-induced mitochondrial damage. *Drug Chem Toxicol*. 2011;34(2):199-207.  
Adriamycin (ADR) causes morphological and functional alterations in mitochondrial structure in the heart. The study's aim was to determine whether there is a protective effect of selenium (Se) on ADR-induced cardiac damage. Rats were divided into four groups: The first group was injected saline intraperitoneally (i.p.) for 21 days; the second group received 4 mg/kg i.p. ADR every alternate day for 8 days; the third group received 50 microg/kg i.p. Se for 21 days; and the fourth received the Se (for 21 days) and ADR (for 8 days) coadministration i.p. Left ventricular functions, electrocardiography parameters, and blood pressures were assessed. Mitochondrial membrane potential (MMP), adenosine triphosphate (ATP) level, and thioredoxin reductase (TrxR) activity were determined. Total antioxidant (TAS) and oxidant status (TOS) in cytosol, mitochondria of myocytes, and plasma were measured. Left ventricular data demonstrated left ventricular systolic pressure (LVSP) decreased, left ventricular developed pressure (LVDP) decreased, and left ventricular end-diastolic pressure (LVEDP) increased in ADR-treated animals, compared to the control and Se groups. ADR decreased the membrane potential and ATP level in myocyte mitochondria. TrxR activity decreased in the ADR group, compared to the Se group. Cytosolic and mitochondrial TAS decreased and mitochondrial and plasma TOS increased in the ADR group, compared to the control. The coadministration of Se with ADR attenuated left ventricular dysfunction, improved MMP and ATP levels, and prevented oxidative stress by increasing antioxidants (especially TrxR) and decreasing oxidants. We concluded that Se is effective against ADR-induced cardiac damage via the restoration of TAS and TOS, which prevented mitochondrial damage.
5. Rothenberg SE, Feng X, Li P. Low-level maternal methylmercury exposure through rice ingestion and potential implications for offspring health. *Environ Pollut*. 2011;159(4):1017-22.  
Fish consumption is considered the primary pathway for MeHg (MeHg) exposure; however, MeHg exposure also occurs through rice ingestion. Rice is grown in an aquatic environment and although documented MeHg concentrations in rice are lower compared to fish tissue,

human exposures exceed international guidelines in some regions where rice is a staple food and rice MeHg levels are elevated. Studies concerning human health exposure to MeHg should also include populations where maternal MeHg exposure occurs through ingestion of rice. Rice does not contain long-chain polyunsaturated fatty acids, which are associated with confounding developmental outcomes in offspring. Rice is also a staple food for more than half the world's population; therefore, it is critical to investigate the potential health risks of maternal ingestion of rice to the developing fetus, the most susceptible population to the deleterious effects of MeHg. Data concerning MeHg in rice are reviewed and micronutrients in rice are discussed.

6. Khan I, Kant C, Sanwaria A, Meena L. Acute cardiac toxicity of nerium oleander/indicum poisoning (kaner) poisoning. *Heart Views*. 2010;11(3):115-6.  
We present a case of oleander leaf extract poisoning manifested by vomiting, lightheadedness, and heart block. Practicing physicians should understand the potential lethal properties of oleander and its availability throughout the world.
7. Chan TY. Causes and prevention of herb-induced aconite poisonings in Asia. *Hum Exp Toxicol*. 2011.  
The recent reports from Hong Kong, Taiwan, China and Korea were reviewed to determine the causes and prospects for prevention of herb-induced aconite poisonings. The contributory factors included overdose (use of greater than the recommended doses), faulty processing (after harvest and during decoction), use of tincture (herbal medicinal wine), use of crude aconite roots (for preparing decoction, proprietary medicines and tincture), lack of standardisation in processing of aconite roots and preparation of tincture and proprietary medicines, unsupervised use of aconite roots and contamination or mix-up with aconite roots. As tincture (herbal medicinal wine) made from aconite roots contains a much larger amount of Aconitum alkaloids, the public should be strongly discouraged from making their own and taking it by mouth. Aconite roots should only be used after post-harvest processing and proper decoction. The public should be educated on the hazards from unsupervised use and improper decoction of processed aconite roots. There should be regular publicity measures to promote awareness among the herbalists and to publicise the risk of serious cardiotoxicity if the recommended doses of processed aconite roots are exceeded. The processing of aconite roots and their proprietary preparations should be standardised. Quality control of processed aconite roots and their proprietary preparations should be strengthened. National reporting or monitoring systems can be used to identify the causes of aconite poisonings and assess the impact of preventive measures.
8. Cıkla U, Turkmen S, Karaca Y, Ayaz AF, Turedi S, Gunduz A. An Atropa Belladonna L. poisoning with acute subdural hematoma. *Hum Exp Toxicol*. 2011.  
Atropa belladonna L. is a plant long known to cause poisoning. But no cases of acute subdural hematoma resulting from such poisoning have been reported so far. Care must also be taken in terms of acute pancreatitis and rhabdomyolysis in cases of such poisoning. The plant may sometimes be mistaken for the Caucasian blueberry, *V. arctostaphylos* L. At least one anti-cholinesterase toxidrome finding was determined in all the nine cases of belladonna poisoning in this series. No elevated creatine kinase was reported in one case with acute subdural hematoma and hyperamylasemia.

9. Nikolaou P, Papoutsis I, Stefanidou M, Dona A, Maravelias C, Spiliopoulou C, et al. Accidental Poisoning after Ingestion of "Aphrodisiac" Berries: Diagnosis by Analytical Toxicology. *J Emerg Med.* 2011.  
BACKGROUND: A large number of plants, seeds, and berries have been used for medicinal, psychotropic, or aphrodisiac purposes for a thousand years. *Mandragora officinarum* belongs to the family of Solanaceae and is traditionally known as an aphrodisiac and is closely associated with witchcraft. OBJECTIVES: In this study we report a case of an accidental poisoning after ingestion of some "aphrodisiac" berries and the contribution of the toxicological analysis in the case investigation. CASE REPORT: A 35-year-old man was admitted to the hospital with clinical signs and symptoms of an anticholinergic syndrome. The diagnosis of the poisoning was made by the toxicological analysis of the patient's urine. The cause of the poisoning was revealed by his girlfriend's disclosure that the patient had intentionally consumed some "aphrodisiac" berries to enhance his sexual performance. Subsequently, berries similar to the ones consumed were sent to the laboratory. The analysis of the urine and the berries revealed the presence of hyoscyamine and scopolamine; the berries were identified as *Mandragora officinarum* berries. Decontamination and symptomatic treatment were proven effective for the control of this poisoning. The patient recovered completely after hospitalization for 4 days. CONCLUSION: This case report indicates the importance of analytical toxicology in diagnosis of intoxications after the consumption of unknown plants or plant products and presents the clinical aspects of *Mandragora* intoxication.
10. Ernst E. Herbal medicine in the treatment of rheumatic diseases. *Rheum Dis Clin North Am.* 2011;37(1):95-102.  
Herbal medicines are popular, self-prescribed treatments for rheumatic conditions. A recent US survey suggested that approximately 90% of arthritic patients use alternative therapies such as herbal medicines. This article provides a brief overview of the evidence on herbal medicines for 4 common rheumatic conditions: back pain, fibromyalgia, osteoarthritis, and rheumatoid arthritis.
11. Lin YR, Wu TK, Liu TA, Chou CC, Wu HP. Poison exposure and outcome of children admitted to a pediatric emergency department. *World J Pediatr.* 2011;7(2):143-9.  
BACKGROUND: This paper reports the characteristics, outcomes and clinical features of children with poisoning treated at an emergency department (ED). METHODS: This retrospective study at an emergency department consisted of 140 children with poison exposure who were aged under 18 years. Their characteristics were analyzed in order to understand the differences between accidental and non-accidental poisoning. The poisonous materials were divided into two major categories (pharmaceuticals and non-pharmaceuticals) and their associations with patient outcomes were analyzed. Furthermore, the association was analyzed between the incidence of poison exposure and the season in which the poison exposure occurred. RESULTS: The incidence of poison exposure was highest among adolescents and pre-school age children. Nonaccidental poisoning was more common in older girls and accidental poisoning was more common in younger boys ( $P < 0.001$ ). Neurological system agents were the most common cause of poisoning in the pharmaceutical group and cleansing products were the most common cause of poisoning in the non-pharmaceutical group. Neurological and gastrointestinal symptoms were the most common clinical presentations for the pharmaceutical and non-pharmaceutical groups, respectively. Furthermore, poisoning due to cleansing products and analgesics were

associated with the longest duration of hospitalization. March was the highest risk month for pediatric poisoning (P=0.018). CONCLUSIONS: Cleansing products and analgesics were associated with the longest duration of hospitalization and intentional poison was more common in girls.