

and cerebellar haemorrhage. **Conclusions:** It is important to observe the increase in neurological events at an early age produced by the use of cocaine and its social-health implications, through prospective studies. Target organs are especially the cardiovascular system and the nervous system and among the mechanisms involved are vasospasm, increase in blood pressure and neurotransmitter alterations.

197. Increasing Drug and Alcohol Abuse Detection Rates in Pediatric Emergency Departments: A Prospective Cohort Study

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Objective: To improve the detection rates of drugs and alcohol use among adolescents presenting to pediatric emergency departments (ED) by introducing structured guidelines for toxicological laboratory workup. **Methods:** The study was conducted in two pediatric ED's [Assaf Harofeh Medical Center" (AHMC) and "Meir Medical Center" (MMC)] between September 1st 2006 and August 31st 2007. These hospitals are affiliated to the Sackler School of Medicine, Tel-Aviv University, Israel. The annual census is nearly 20,000 patients in both hospitals and the demographics are similar. Physicians in the AHMC were instructed to send blood for ethanol levels and urine for toxicological screening in any adolescent (age 12–18) presenting to the ED with a new psychiatric disorder, any change in the level of consciousness, suicidal attempt or past history of alcohol or drug abuse. Physicians in the MMC did not receive any special instructions. **Results:** During the study period, 3200 adolescents (51% males) were seen in AHMC and 3493 (47% males) in MMC. The mean age was 15.2 ± 1.7 years and 14.9 ± 1.7 respectively. Urine drug screen was ordered for 138 patients from AHMC and 48 patients from MMC ($P < 0.001$). Illicit drugs were detected in 13 patients from AHMC and in 4 patients from MMC ($P = 0.034$). Ethanol levels were measured in 75 patients from AHMC and 31 patients from MMC ($P < 0.001$) and were higher than 10 mg/dl in 49 and 30 patients respectively ($P < 0.001$). **Conclusion:** Introducing structured guidelines for ordering toxicological screening increases the detection of alcohol and drug of abuse among adolescents presenting to pediatric emergency departments. Further studies are needed to determine whether or not the increased detection rate also improve medical treatment and the cost effectiveness of this approach. **Acknowledgement:** Supported by a grant from the Israel Anti-Drug Authority.

198. Detection of Phencyclidine in Urine: Real Poisoning or Pharmacological Interaction

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Objective: Phencyclidine (PCP) or angel dust is a drug of abuse that is uncommon in Spain. It is normally detected by using a technique that may cause cross-reactions with the metabolites of some drugs, especially venlafaxine. The objective of this study was to analyze the characteristics of patients who tested positive for the detection of PCP in urine in an emergency department. **Methods:** We made a retrospective analysis of the clinical histories of patients testing positive for PCP in urine during 1999–2006. Epidemiological data, drug consumption, psychiatric disease and treatment, reason for consultation and analytical results (detection of drugs of abuse in urine) were collected. Patients were divided into two groups according to whether they were treated with venlafaxine (A) or not (B). **Results:** Forty patients were included, with a mean age of 29.8 years; 21 were male. A total of 70% of patients were receiving drug treatment for a psychiatric disease and 50% were habitual consumers of drugs of abuse. The most common reasons for consultation were psychiatric alterations in 30%, attempted suicide in 27.5% and neurological manifestations in 17.5% of the cases. Group A included 21 patients, of whom 13 tested positive for PCP alone in urine, while the remaining 8 also tested positive for other drugs of abuse: cocaine (4), cannabis (2), methamphetamine (2) and amphetamine (1). Group B included 19 patients, of whom nine tested positive for PCP alone in urine; five were receiving treatment for antidepressants or neuroleptic drugs. The remaining eight patients also tested positive for other drugs of abuse: cocaine (5), cannabis (4), opiates (3), amphetamines and methamphetamine (2); three were receiving treatment with antidepressants or neuroleptic drugs. **Conclusions:** The routine detection of PCP in urine can give rise to diagnostic errors when possible interactions with other drugs are not known. In case of doubt, more specific techniques should be performed to confirm the consumption of PCP.

199. Use of Physostigmine in the Treatment of the Anticholinergic Syndrome Related to Abuse of Cocaine Adulterated with Atropine

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In recent years anticholinergic syndrome (AS) caused by adulterated cocaine is more frequent (1) and has been described in various European countries (2,3). **Objective:** We describe symptoms, toxicological analysis and treatment in two patients presenting to the emergency department (ED) after sniffing cocaine adulterated with atropine. **Case series:** Case 1 - A 24 year old man presented to the ED for persisting AS after sniffing 2 grams of cocaine 4–6 hours before. Clinical investigation revealed excitability, auditory and visual hallucinations, delirium, mydriasis, flushing and dry mouth. Body temperature (BT) was normal and heart rate (HR) was 93 bpm. The patient was initially treated with benzodiazepines and physostigmine 0.2 milligrams infusion. Physostigmine 0.2 milligrams was repeated 30 minutes later for persistent hallucinations. Complete neurological recovery resulted and the patient was discharged the following day. Toxicological laboratory data revealed cocaine and atropine in the urine sample. Case 2 - A 42 year old man was admitted to the ED 3 hours after abuse of cocaine. The patient presented with unreactive wide pupils and hallucinations. HR and BT were 130 bpm and 39.6° centigrade respectively. Benzodiazepines and physostigmine 0.5 milligram were immediately administered. A complete clinical recovery was observed within 30 minutes. Atropine urine level was 500 ng/ml. Atropine blood levels were below the laboratory detection limit (2 ng/ml)

in both cases. **Conclusion:** Clinical evaluation and toxicological analysis are very important for diagnosis and specific treatment of poisoned cocaine patients with unexpected AS at ED admission; nowadays atropine and other anticholinergic adulterants have to be considered in cocaine abusers in Italy. Physostigmine seems to be effective in the treatment of AS related to cocaine-atropine mixture abuse, without adverse effects. **References:** 1. Weiner AL, Bayer MJ, McKay CA Jr, et al. Anticholinergic poisoning with adulterated intranasal cocaine. *Am J Emerg Med* 1998; **16**: 517–520. 2. Bacis G, Papa P, Rocchi L, et al. Cocaine adulterated with atropine: an epidemic poisoning in northern Italy in 2004. *Clin Toxicol* 2005; **43**: 664. 3. Intoxications with cocaine adulterated with atropine in four EU Member States (Nov/Dec 2004-Feb 2005). www.emcdda.eu.int

200. Severe Acute Neurotoxicity after Yohimbine Ingestion in a Body Builder

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Yohimbine is an alkaloid obtained from *Corynanthe yohimbe* and other biological sources (1). Yohimbine is used clinically in the treatment of certain types of erectile impotence (2) and has undergone a resurgence in street use as an aphrodisiac and mild hallucinogen (3). In recent years yohimbine has been very common in body-building communities for its hypothesized lipolytic and sympathomimetic effect. **Objective:** We describe a case of a bodybuilder in whom severe acute neurotoxic effects presented 1–2 hours after yohimbine ingestion. **Case report:** After ingestion of 5 grams of yohimbine mixed with niacin for a body-building competition a 37 year-old man presented early with generalized malaise, vomiting, loss of consciousness and seizures spontaneously resolving in a few minutes. At first evaluation the GCS was 3 so orotracheal intubation and fluids infusion were immediately started. At admission to the ICU the patient presented with hypertension (acme 259/107 mmHg) and tachycardia (acme 140 pulse/minutes) and was treated with furosemide and labetalol; chest radiographs and cranial CT scan were normal. The patient's history was negative for neurological diseases. An extensive gastric lavage was immediately performed, followed by oral administration of activated charcoal and cathartics. Twelve hours later the patient was extubated with normal hemodynamic parameters and neurological examination; he was discharged the following day. The yohimbine blood levels at 3, 6, 14 and 22 hours after ingestion were 5240, 2250, 1530, 865 ng/ml respectively. **Conclusion:** Yohimbine utilization in body-building communities is a known problem but few data are available about its toxicity and the related blood levels. The most common adverse effects due to yohimbine administration include antidiuresis, tachycardia, hypertension, vasodilation, nausea, tremor, irritability, dizziness, headache and hallucinations. This patient showed severe hemodynamic and neurological manifestations; to our knowledge it is the first case of intoxication with such high blood levels of yohimbine. **References:** 1. Shannon M, Neuman MI. Yohimbine. *Pediatric Emerg Care* 2000; **16**: 49–50. 2. Tam SW, Worcel M, Wyllie M. Yohimbine: a clinical review. *Pharmacol Ther* 2001; **91**: 215–243. 3. Linden CH, Vellman WP, Rumack B, et al. Yohimbine: a new street drug. *Ann Emerg Med* 1985; **14**: 1002–1004.

201. Cyclical Hyperemesis Associated with Frequent Marijuana Use: A Case Report

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Objective: Cyclical hyperemesis associated with frequent marijuana use has been recently described, though few reports exist. This is a case of cyclical hyperemesis with daily marijuana use in an adolescent female. **Case report:** A 19 year old female presented to the emergency department complaining of multiple episodes of nonbloody, nonbilious vomiting. She had experienced similar episodes occurring in every few months over the previous two years, as confirmed by chart review. Review of systems was negative for fever, abdominal pain, diarrhea, vertigo, headache, or other symptoms commonly associated with vomiting. She denied any history of pregnancy. She reported no medication use but did report use of marijuana multiple times daily for the six preceding years. Physical examination revealed a well-appearing female with normal vital signs, and normal abdominal, neurologic, cardiac, pulmonary, abdominal, musculoskeletal, and dermatologic examination. Urine toxicology testing was positive for THC/cannabinoids and urine pregnancy test was negative. Laboratory values of blood count, comprehensive metabolic panel including liver function tests, amylase, lipase, were all within normal limits. Abdominal ultrasound and CT were also normal. The symptoms were deemed to be consistent with cyclic hyperemesis associated with chronic marijuana use (1,2) and the patient was advised to discontinue marijuana use. She disbelieved the diagnosis and refused to cease smoking marijuana instead choosing to follow up with a gastroenterologist. **Conclusion:** The pattern of symptoms in this case is consistent with previous descriptions of cyclical hyperemesis due to frequent marijuana use. Since this syndrome develops after years of marijuana use and is cyclical in nature, patients commonly dispute the association or causality of marijuana and vomiting and are unwilling or unable to discontinue use. Patients who cease marijuana use have resolution of symptoms that recurs after resumption of marijuana use. This phenomenon remains an esoteric, possibly under recognized entity that should be considered in patients with hyperemesis. **References:** 1. Allen JH, GM de Moore, R Heddl, et al. Cannabinoid hyperemesis: cyclical hyperemesis in association with chronic cannabis abuse. *Gut* 2004; **53**: 1566–70. 2. Roche E, Foster PN. Cannabinoid hyperemesis: not just a problem in Adelaide Hills. *Gut* 2005; **54**: 731.

202. Cocaine Intoxication: Analysis of 327 Cases

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Objective: To describe the characteristics of subjects with acute cocaine intoxication (CI) attended by the emergency department. **Methods:** Retrospective study of all cases of acute CI