Animal Abuse & Veterinary Toxicology

Illicit Substances
Munchausen by proxy

Refer lecturer for course updated notes.

Students are oblidged to follow the courses for evaluation process and presented notes are preliminary drafts for the whole evaluation process.

Veterinary Forensic Toxicology

- Toxic and toxicants specified in the scope of toxicology following the ingestion of harmful / harmful effects are investigated in terms of qualitative and quantitative aspects; the legal aspect of these cases is the subject of Forensic Toxicology and the examination of forensic poisoning cases in animals is the subject of Veterinary Forensic Toxicology.
- Apart from clinical veterinary toxicology, analytical detection of suspected substance rather than response to treatment comes to the fore

Veterinary Forensic Toxicology

- In animals, exposure to substances that are the subject of forensic toxicology can be passive (environmental), accidental or intentional.
- While it is not known, most of the poisonings (> 99%) in the United States are due to accidental exposure and much less are deliberate (<1%); it is reported to be higher in cats and dogs than other pet species.
- Intentional animal intoxication includes treatment / treatment (such as acetaminophen for painkillers for cats) without any intention of harm (poisoning) (<0.5%)

- It is thought that these figures may be different due to the lack of a central registry system in which veterinary medicine poisoning cases are recorded in our country.
- Although deliberate poisoning events are rarely seen in food-fed animals, more animals (flock) are affected.
- The same applies to wildlife animals (such as the targeting of migratory birds; or the ingestion of prepared bait by others other than the target animal).
- Nowadays, with the guidance of the media, these events are made compulsory to be investigated by the society in particular, but due to the lack of sufficient financial support and infrastructure, they often turn into forensic cases.
- Veterinary forensic toxicology cases; examines cases of animal abuse that result in deliberate harm, injury or death of animals.
- The subjects in these cases are also associated with child abuse and domestic violence in terms of socioeconomic and psychological aspects

Post mortem redistribution (PMR-postmortem redistribution phenomenon)

- changes in drug concentration from the antemortem reservoirs after death, should also be considered to change drug concentrations.
- In this context, unabsorbed xenobiotic-containing stomach and rumen contents (ruminated) can be transferred to the airways and lungs by being inhaled perimortem at the agonal stage or by manipulation error during post mortem examination and transferred to the cardiac blood.
- The lungs can act as reservoirs for some xenobiotics (macrolide antibiotics), and drugs in the liver can enter the hepatic veins or the vena cava into the cardiac blood.
- Digoxin and morphine accumulate in the myocardium in living animals, while high concentrations of cardiac blood can be found by postmortem diffusion.
- Many factors such as dispersion volume, lipophilicity, pKa value and metabolism of the drug affecting PMR have been studied in detail in human medicine, but are often overlooked in veterinary medicine.
- It should be considered that morphological and molecular differences in humans and animals may cause PMR differences and should be evaluated at the decision stage.

Munchausen by Proxy for veterinary cases

- Münchausen Syndrome, a psychological disorder seen among the hidden causes of abuse, takes its name from the 18th century German Baron Karl von Munchausen.
- The story of Munchausen, who exaggerated his experiences in the Russo-Ottoman war he participated in and put himself at the center of the events, made him famous and led to the introduction of a syndrome that will be named after him.
- It was first used by Richard Alan John Asher in 1951 to describe patients wandering in hospitals and seeking unnecessary treatment.

Munchausen by Proxy

- In Munchausen syndrome, a person acts for his or her own attention, and by “by proxy MB (MBP) he / she wants to draw attention from his / her authority (children, animals).
- This personality disorder can result in death in children and animals.
- The signs and symptoms of the disease are created by the animal owners themselves and can be used for different motivations (avoidance of work, financial resources, compensation, interest seeking, anabolic steroid, sympathomimetic, muscle relaxant, neuroleptic, drug supply like tranclizant).
- With the motivation to obtain drugs, the owner of the dependent animal came to the clinic and asked the veterinarian to prescribe a tranklizan drug stating that his dog had a voice phobia (behaving strangely in lightning and similar noises), an opiate addict's pet with hydrocodone or butorphanol demand, weakness in the dog. animals are often found to be passive participants, such as the owner's demand for anabolic steroid, and the owner's request for an antidepressant print for his dog, which he claims to be restless.
- MBP patients are generally female, knowledgeable about the drug and affect the veterinarian through medical conversations

Table 1. Nine suspected cases of Munchausen syndrome by proxy in animals

Case	Species	Age category	Gender	Details reported by respondent	Outcome
Cases reported by respondents					
1	Dog	7 months to 2 years	M	At the time, the veterinarian was called out three times in one day by the owner, who was insistent that a neighbour had poisoned this dog (and another). There were no obvious injuries, except that both dogs were restless and one had haematuria. Both recovered after two days' hospitalisation.The problem came to light later, when the owner was prosecuted (and convicted) for the attempted poisoning of his child. It was brought out in court that the accused had previously attempted to poison two other pets, who had been treated by other veterinarians. The respondent stated that the owner had been 'accused of Munchausen by proxy syndrome'	Survived
2	Dog	NR	NR	The respondent stated he/she 'suspected Munchausen syndrome by proxy'. The pattern followed the owner's own attempts at getting treatment for lameness, haematuria and otitis externa for the dog. The owner always 'pretreated' the dog, so the veterinarian found it difficult to diagnose the original problems, if any. The dog was reported 'fitting', but always presented normal in the surgery. After very abnormal electrolyte levels were found, the dog was sent to a referral centre, where death occurred. A postmortem examination was inconclusive	Died
3	Dog	NR	NR	The respondent reported having a client with 'Munchausen syndrome by proxy', who, before attending the respondent's practice, had broken the legs of previous dogs. The police were aware of her but had encountered difficulty because she changed her address and veterinary practice frequently. She had not yet injured her current pets, but it was noted that they were very frightened of her	NR
4	Dog	7 months to 2 years	F	Respondent reported that a series of incidents over a number of years 'led to a finding of Munchausen syndrome'	NR
5	Cat	7 months to 2 years	F	The cat's owner gave an incoherent history with regard to the cause of injuries (abdominal bruising and fractured femur). Postoperative trauma occurred to the intramedullary pin. Repeated problems arose with the case until the cat was hospitalised. Problems with other animals were noted. Respondent considered this was a 'Munchausen by proxy type problem'	Survived
6	'Pets'	NR	NR	Eight to 12 pets, belonging to one person, died in unexplained and suspicious circumstances that aroused suspicion (eg, after nail clipping). The respondent stated that he/she would now regard this as 'indicative of a syndrome similar to Munchausen syndrome as it was almost related to attention seeking behaviour'	Died

J Small Anim Pract. 2001 Aug;42(8):385-9.

'Battered pets': Munchausen syndrome by proxy (factitious illness by proxy).

Munro HM[1], Thrusfield MV.

Cases identified by the authors

7	Dog	NR	NR	The respondent was positive that the owner had poisoned own dog. The case was puzzling clinically and no specific findings could be found on investigation. There was an almost triumphant 'I told you so' from the owner when the dog died. Postmortem examination was refused	Died
8	Dog	< 12 weeks	NR	A three-week-old puppy with severe head injuries was presented in the surgery for treatment. The owner subsequently requested a house call to examine another four puppies of the same age; all of them had 'crushed skulls'. After being questioned by the police, the owner admitted injuring the puppies herself	Euthanased because of injuries
9	Cat	< 12 weeks	F	Respondent reported repeated visits (very frequent – up to four times daily) by the kitten's owner (and friend) who reported smoke inhalation in the kitten, and also diarrhoea in other animals, but with no clinical evidence. During consultation, the kitten was handled roughly by the owner's friend, who also displayed intimidating behaviour towards the staff. The kitten suffered severe head injuries, and a fractured skull was suspected	Euthanased because of injuries

J Small Anim Pract. 2001 Aug;42(8):385-9.

'Battered pets': Munchausen syndrome by proxy (factitious illness by proxy).

Munro HM[1], Thrusfield MV.

Munchausen by Proxy: veterinary cases

- Animals: Passive participants
- MBP patients- Usually women
  - Highly motivated to help the veterinarian
  - Knowledgable about drugs
  - Charm veterinarian by medical talks (Google doctor talks)

Can Vet J. 2006 Dec; 47(12): 1161–1164. PMCID: PMC1636598

Problematic client-animal relationships: Munchausen by proxy

Myrna Milani

Substances of abuse

- Exposure of animals to abusive substances; during training (drug / explosive search dogs), during research (toxicity, addiction studies); psychosocial disorders may be caused by the owner of the animal or by accident (forgetfulness due to carelessness, such as leaving out)
- Animal owners with psychological disorders can give animals alcohol or other abusive drugs because they enjoy thinking that animals will enjoy these substances, or because they enjoy watching them after applying them to the animal

Substances of abuse

- Although there are various animal models of substance abuse, the most commonly used species are rats and dogs, the route of administration varies depending on the animal species and the substance being investigated (alcohol-oral, heroin-intravenous, nicotine-inhalation) and the reward pathway is usually dopaminergic pathways (in chronic administration). other pathways can also be evaluated). As in all animal models used for research purposes, these studies follow the 4 R principle (Reduction, Refinement, Replacement, Responsibility

Substances of abuse

- For abused substances, the veterinarian should also observe the animal owner coming to the clinic. If the general clinical findings include enlarged / narrowed pupils, frequent nasal / runny nose, red eyes, needle marks, euphoria, hyperactivity, frequent leaving the clinic room, white dust around the nose, the findings of the animal must be carefully considered in terms of the possibility of abuse. It should be evaluated. However, it should be kept in mind that the clinical findings in animals and humans may be completely different (such as opiate pupil stenosis and sedation in humans, pupil enlargement and CNS stimulation in cats).

Substances of abuse

- A laboratory for the analysis of these substances is not available for pet animals, but for doping control only horses can be evaluated. Therefore, there is no legal sanction in the interpretation of the results to be received after being sent to the human laboratory (not all laboratories may accept) (results may vary due to different kinetic parameters and metabolites). However, in one study, the multidrug human urine test kit has been shown to be susceptible to the same drug groups (barbiturates, opiates, benzodiazepines, amphetamines, and methamphetamines) in dogs and has been confirmed using GC-MS and can be used quickly and reliably in the field. The test kit used in the same study was not susceptible to marijuana (cannabinoid) and methadone (synthetic opiate) in dogs

Substances of abuse

- The veterinarian must notify the abusive substances of abuse and suspicion by contacting the relevant safety department/police.
- The most commonly abused substances include cocaine, marijuana, Ecstasy (MDMA or 3,4-Methylenedioxymethamphetamine), opiates, amphetamine-like drugs
- The assessment of the toxicity of these substances is not presented in the scope of this paper since it is a very detailed subject. According to the United Nations report, 8% of the population in Afghanistan (more than twice the global average) is dependent on heroin, opiate and other drugs, and production is being made, particularly opiates nd the dependence rate on dogs there is quite high

Substances of abuse

- A group that can be classified as aver raver animals bir can also be considered within the context of the relationship between abused substances and pets. Within this group, especially in electronic music festivals and indoor areas, the animal owners apply new generation psychoactive substances (synthetic cathinones, synthetic cannabinoids, phenylethylamines, piperazines, ketamine, kratom, khat, Salvio divinorum, etc.) which are applied to the animals. exposure may be the case. In animals, aggression may increase with the effect of high music and medicine. In particular, as a result of narcotic dogs go to such places again, toxicities can be seen in animals (23).
- In order to evaluate and conclude increasing forensic toxicology cases related to animal abuse in a healthy way; In the context of veterinary education, it is recommended that the students receive adequate training on this subject and establish veterinary toxicology laboratories that analyze the abused and used drugs and substances in medicine.

Cocaine

A picture of a cat addicted to crack cocaine

JOURNAL OF Veterinary Emergency AND Critical Care

Retrospective Study

Journal of Veterinary Emergency and Critical Care **24**(2) 2014, pp 201–207
doi: 10.1111/vec.12159

Presumptive cocaine toxicosis in 19 dogs: 2004–2012

Emily K. Thomas, BA, VetMB, MRCVS; Kenneth J. Drobatz, DVM, MSCE, DACVIM, DACVECC and Deborah C. Mandell, VMD, DACVECC

Vet Hum Toxicol. 1998 Jun;40(3):154-5.

Postmortem diagnosis of accidental cocaine intoxication in a dog.

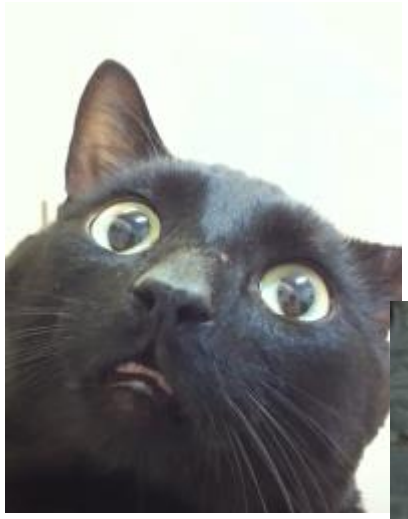
Frazier K[1], Colvin B, Hullinger G.

Acute Cocaine Intoxication in the Conscious Dog: Studies on the Mechanism of Lethality[1]

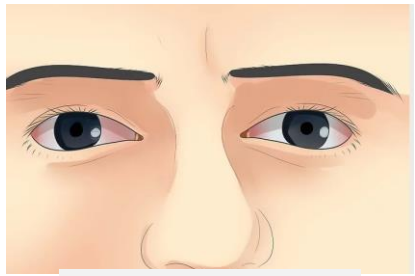
JOHN D. CATRAVAS[2] and I. W. WATERS

Burun çevresinde beyaz toz

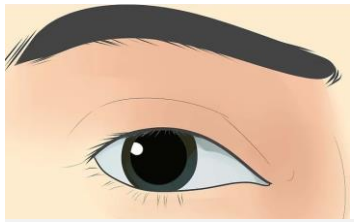
Öfori, hiperaktivite, odayı sık terketme



Sık burun çekme/burun akıntısı



Kırmızı gözler



Genişlemiş pupil

İğne izleri

Etrafta/yanındaki malzemeler

Abnormal anal, perineal, tail reflexes, **A**bnormal behavior, aggression, changing habits, **A**bnormal lung or pleural sounds, **A**bnormal pupillary response to light, **A**rrhythmia, **A**taxia, **B**lindness, **C**ircling, **C**oma, **C**onstant or increased vocalization, **D**ullness, **D**ysmetria, **D**yspnea, Excessive salivation, Excitement, **F**ever, **G**eneralized weakness, **H**emoglobinuria or myogl nia of muscles, myotonia, **I**nability to open (trismus) iratory rate, **M**ydriasis, **N**ystagmus, **P**tosis, **R**ed or brown s tachycardia, **T**achycardia, **T**rembling, **T**remor, **V**omiting

Marijuana

J Vet Emerg Crit Care (San Antonio). 2012 Dec;22(6):690-6. doi: 10.1111/j.1476-4431.2012.00818.x.

Evaluation of trends in marijuana toxicosis in dogs living in a state with legalized medical marijuana: 125 dogs (2005-2010).

Meola SD[1], Tearney CC, Haas SA, Hackett TB, Mazzaferro EM.

2 dos, dead, vomit aspiration

Top Companion Anim Med. 2013 Feb;28(1):8-12. doi: 10.1053/j.tcam.2013.03.004.

Marijuana poisoning.

Fitzgerald KT[1], Bronstein AC, Newquist KL.

3> g/kg

JOURNAL OF FORENSIC SCIENCES

J Forensic Sci, January 2012, Vol. 57, No. 1
doi: 10.1111/j.1556-4029.2011.01961.x
Available online at: onlinelibrary.wiley.com

PAPER

PSYCHIATRY & BEHAVIORAL SCIENCES

Allison M. Schenk,[1] B.A.; Laurie L. Ragatz,[1] M.S.; and William J. Fremouw,[1] Ph.D, A.B.P.P.

Vicious Dogs Part 2: Criminal Thinking, Callousness, and Personality Styles of Their Owners

Violent dogs- criminal owners- usually addicted

require medical attention (2). Based on high rates of human injury and insurance claims, the American insurance industry has designated six breeds of dogs (Akita, Chow, Doberman, Pit Bull, Rottweiler, and Wolf-Mix) as vicious (3). The Center for Disease

Veterinarni Medicina, 61, 2016 (3): 111–122 *Review Article*

doi: 10.17221/8762-VETMED

Therapeutic usage should be different

The use of cannabinoids in animals and therapeutic implications for veterinary medicine: a review

L. Landa[1], A. Sulcova[2], P. Gbelec[3]

Ecstasy (MDMA or 3,4-Methylenedioxymethamphetamine)

- Sympathomimetic effects
- CNS excitation
- Agitation
- hyperactivity
- Fast breathing
- hyperthermia
- tachycardia
- Hypertension
- Tremors
- sedation
- the hallucinations
- vocalization
- the disorientation
- Muscle rigidity
- Half life: 8-9 hours
- Antiseratonergic ciproheptadine for seratonergic effects (1.1 mg / kg PO, repeated for 6-8 hours)
- Hyperthermia control
- Chlorpromazine (10-18 mg / kg)

Fundam Appl Toxicol. 1987 Jul;9(1):110-9.

Toxicity of methylenedioxymethamphetamine (MDMA) in the dog and the rat.

Frith CH, Chang LW, Lattin DL, Walls RC, Hamm J, Doblin R.

Abstract

Methylenedioxymethamphetamine (MDMA) was administered to dogs and rats orally once a day for a 28-day period to evaluate the morphological and neuropathological effects. Major clinical signs associated with the administration of MDMA in the dog included circling, depression, dilated pupils, hyperactivity, rapid breathing, and salivation. Major clinical signs in the rat included hyperactivity, excitability, piloerection, exophthalmos, and salivation. Gross observations at necropsy in the dog possibly related to administration of the test article included reduced testicular size (one high and one medium dose) and prostatic enlargement in two high-dose animals. No gross lesions were seen in the rats at necropsy. The medium- and the high-dose groups in both sexes in both the rats and the dogs gained significantly less weight than the control and low-dose groups. Food consumption decreased the first week for the high- and medium-dose groups, but a significant reversal toward more normal consumption was noted in the following weeks in both the rats and the dogs. Hematologic, clinical chemistry, and urinalysis values did not appear to be affected by the administration of the test article in the dog. In the rat clinical pathology variables showing a trend to decrease with dose included urinary pH, blood urea nitrogen, glucose, creatinine (females), lactate dehydrogenase (LDH) (females), and chloride. Clinical pathology variables showing a trend to increase with dose included total white blood cell count and phosphorus. Microscopically, testicular atrophy was present in one medium-dose and two high-dose male dogs. Prostatic hyperplasia was present in two high-dose male dogs. No test article-related lesions were seen in the brains of either species.

Opiates

- Phenanthrene-morphine, heroin, hydromorphone, oxymorphone, hydrocodone, codeine, oxycodone
- Morphinan-butorphanol
- Diphenylheptanes-methadone, propoxylene
- Phenylpiperidine-meperidine, diphenoxylate, fentanyl, loperamide, profadol
- Benzomorphan- Pentazosin, Buprenorphine

Dogs: Opioids and Opiates Lethal Consumption						
	X-Small Yorkie, Chihuahua	**Small** Pug, Boston Terrier, Poodle	**Medium** Beagle, Scottish Terrier	**Large** Boxer, Cocker Spaniel	**X-Large** Retriever, German Shepherd	**XX-Large** Great Dane, St. Bernard
	1 – 10 lbs. (0.45 – 4.6 kg)	11 – 25 lbs. (5 – 11.4 kg)	26 – 40 lbs. (11.8 – 18.2 kg)	41 – 70 lbs. (18.6 – 31.8 kg)	71 – 90 lbs. (32.3 – 40.9 kg)	91 – 110 lbs. (41.4 – 50 kg)
						
Heroin (SQ)	> 11 mg	> 124 mg	> 294 mg	> 464 mg	> 807 mg	> 1034 mg

Cats: Opioids and Opiates Lethal Consumption		
	Most Cats	**Large Cats**
	1 – 10 lbs. (0.45 – 4.6 kg)	11 – 25 lbs. (5 – 11.4 kg)
		
Heroin (oral)	> 8 mg	> 99 mg

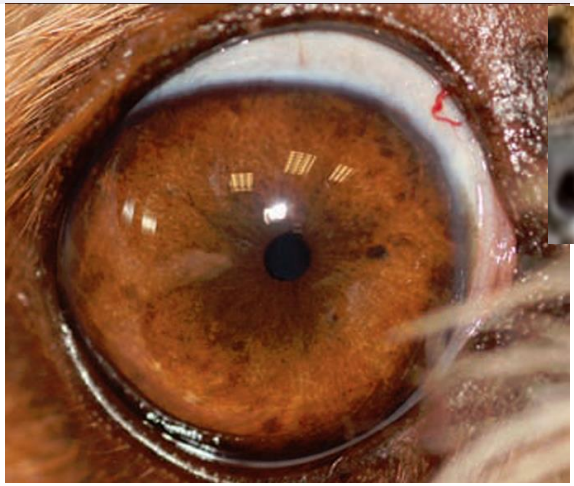
Opiates

- CNS depression, dizziness, ataxia, vomiting, tremors, miosis, coma, respiratory system depression, hypotension, constipation / defecation, death Cat, horse, cattle, pig- CNS excitation

The Eyes Don't Lie

Narcotic Analgesics – Heroin, Pain Pills

Meth, Cocaine, Ritalin, Diet Pills, Hallucinogens



J Pharmacol Exp Ther. 1985 Sep;234(3):603-6.

Morphine-induced mydriasis and inhibition of pupillary light reflex and fluctuations in the cat.

Pickworth WB, Sharpe LG.

Journal of Feline Medicine and Surgery (2014) **16**, 572–578

CASE REPORT

Tramadol toxicity in a cat: case report and literature review of serotonin syndrome

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Overview: Tramadol toxicity has not previously been reported in a cat.
Case summary: This report describes the clinical signs, diagnosis and treatment of tramadol toxicity, manifesting as serotonin syndrome, in a cat in Australia.
Practical relevance: For any cat with suspicion of serotonin syndrome, in particular secondary to tramadol overdose, it is recommended that decontamination, monitoring and supportive care are instituted as soon as clinical signs develop. Prolonged hospitalisation may be required in the event of a severe overdose.
Literature review: The literature relating to the pharmacology of tramadol and tramadol overdose, clinical manifestations of tramadol overdose, and serotonin syndrome in cats, humans and dogs is reviewed. Recommended treatment for tramadol overdose and serotonin syndrome is also discussed.

Serotonin syndrome as defined by the Sternbach criteria[46]

- Recent addition or increase in a known serotonergic agent
- Absence of other possible aetiologies (infection, substance abuse, withdrawal, etc)
- No recent addition or increase of a neuroleptic agent
- At least three of the following symptoms:
  - Mental status changes (confusion, hypomania)
  - Agitation
  - Myoclonus
  - Hyperreflexia
  - Diaphoresis
  - Shivering
  - Tremor
  - Diarrhoea
  - Incoordination
  - Fever

Hunter Serotonin Toxicity Criteria[42]

- A history of serotonergic agent ingestion or overdose
- The presence of any of the following:
  - Tremor and hyperreflexia
  - Spontaneous clonus
  - Muscle rigidity, temperature higher than 38°C and either ocular clonus or inducible clonus
  - Ocular clonus and either agitation or diaphoresis
  - Inducible clonus and either agitation or diaphoresis

Muffin's overdose: Young woman accused of killing neighbour's cat... by blowing heroin smoke in its face

- **Danielle Blankenship, 21, of Boulder is charged**
- **She denies blowing drug smoke at cat named Muffin**
- **Drug tests on cat are pending**

By DAILY MAIL REPORTER
UPDATED: 10:54 GMT, 8 July 2011

Heroin overdoses are tragic, and unfortunately they aren't restricted to human beings.

Police in Boulder, Colorado believe a young man's cat may have been killed by inhaling the powerful drug, after a neighbour allegedly blew heroin smoke in its face.

As Fox31 Denver reports, Boulder police arrested Danielle Blankenship, 21, on Tuesday morning on charges of cruelty to animals stemming from the mysterious death of a cat named Muffin.

Scroll down for video

Bizarre: Muffin, the cat who died, had lived at the same apartment building in Boulder as Ms Blankenship

Ms Blankenship could face felony charges if a necropsy shows the cat was indeed poisoned by heroin

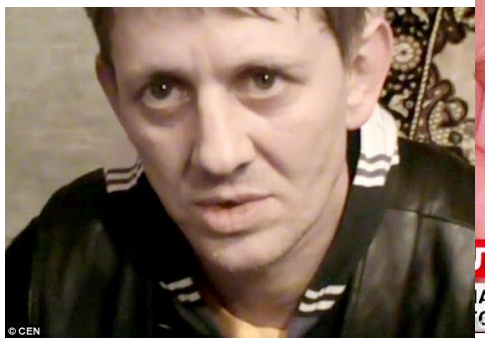
Opiate toxicity in cats

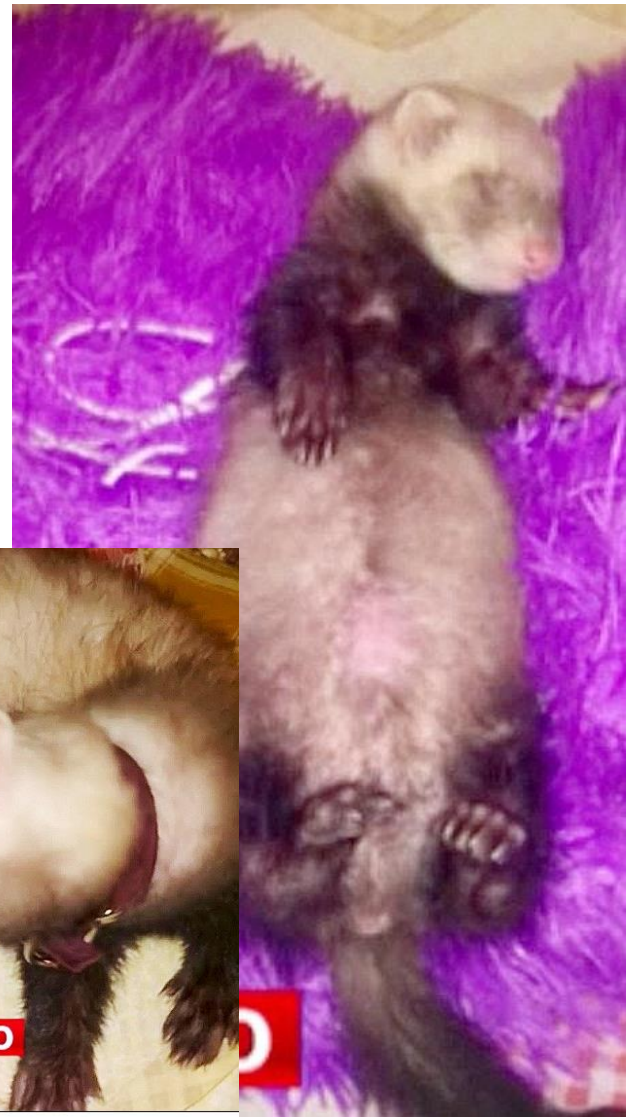
- Therapeutic applications to reduce the effects of respiratory and CNS
- Respiratory system suppression and coma can be prevented by naloxane (IV, IM or SC with 0.02-0.04 mg / kg or fluid therapy).
- The half-life of naloxane is short and additional dosage is required (30-90 min intervals may be required)
- Artificial respiration may be required
- Contractions can be controlled with diazepam

- Body temperature should be controlled, hypothermia can be seen
- Although heroin is excreted faster than morphine, symptoms may persist for a very long time.
- Organ damage due to hypoxia may occur and may have lasting effects

- Russian police see poppy lying on ground during raid
- 2-month-old pup, says the owner used to eat after eating
- She likes the daily «hash» sessions and gets used to it.
- The 27-year-old owner, his girlfriend and three others at home are arrested for possession of illegal substances.

Hashish (shown next to a U.S. penny for scale)





Amphetamine (alpha-methyl-phenethylamine)

- synthetic stimulant that is used as an appetite reducer in weight control, in the treatment of various behavioral problems, such as narcolepsy, parkinsonism, attention deficit, and in the treatment of various disorders including hyperactivity disorder (Dexedrine and Adderall).
- Street name: Speed, bennies, speed
- Benzamphetamine, dextroamphetamine, lisdexamphetamine, pemoline, methylpenidate, phentermine, diethylpropion, phenedimetrazine, methamphetamine, fenmetrazine

- Cocaine-like symptoms - the effect can last longer. Urinary pH is 15-30 s if alkaline, 8-10 s if acidic
- Hyperactivity, aggression, hyperthermia, tremor, ataxia, tachycardia, hypertension, mydriasis, nodding, turning around, death
- Phenothiazines are preferred-Asepromazine (0.05–1 mg / kg, IV, IM, SC), chlorpromazine (0.5–1 mg / kg, D1, IM) Other anticonvulsants may also be used (diazem, barbiturates, isoflurane)
- Acidification of urine with ammonium chloride (25-50 mg / kg, PO)
- Ciproheptadine (1.1 mg / kg PO)
- Beta blockers for tachycardia, body temperature and electrolyte control

Signs	Treatment
Hyperactivity, agitation	• Acepromazine: 0.04 mg/kg IV PRN; up to 0.5-1.0 mg/kg IV may be required.* • Butorphanol: 0.4 mg/kg IV PRN.* • Decrease stimulation: decrease brightness of room; minimize noise; cotton in ears.
Tremors	• Methocarbamol: 55-220 mg/kg IV. Do not exceed 330 mg/kg/day.
Seizures	• Phenobarbital: 2-5 mg/kg IV; or Levetiracetam 20 mg/kg IV*
Serotonin syndrome	• Cyproheptadine: 2-4 mg total/cat, or 1.1 mg/kg in dogs, PO or per rectum (dissolved in saline) q 4-6 hours
Hyperthermia	• Cool to 103.5F with lukewarm water • IV fluid therapy
Sinus tachycardia and associated hypertension	• If unresponsive to sedation, consider use of a beta blocker: - Esmolol: 200-500 mcg/kg IV bolus over 2 minutes then, if responsive, 50-200 mcg/kg/min IV CRI; or - Propanolol: 0.02 mg/kg slow IV q 8 hours

Raver animals

- High music
- Effect of the drug - scary
- Aggression enhancer

YENİ NESİL PSİKOAKTİF MADDELERİN TANIMI, SINIFLANDIRMASI, TEMİN YÖNTEMLERİ VE ETKİLERİ

ARAŞ. GÖR. DR. SELDA MERCAN | İSTANBUL ÜNİVERSİTESİ, ADLİ TIP ENSTİTÜSÜ, ADLİ TOKSİKOLOJİ LABORATUARI, 34303, CERRAHPAŞA, İSTANBUL, MERCANSELDA@GMAİL.COM

1. Sentetik katinonlar,
2. Sentetik kannabinoidler
3. Fenetilaminler
4. Piperazinler
5. Ketamin
6. Bitkisel tabanlı maddeler (Kratom, Salvia divinorum, Khat)
7. Diğer maddeler (Triptaminler, Aminoindanlar, Fensiklidin türü maddeler)

Bu gurubun içinde yer alan maddelerden bazıları, ülkemizde 3 Ocak 2014 tarihinde 2014/5818 sayılı kararnamede Bakanlar Kurulu Kararı ile 2313 sayılı "Uyuşturucu Maddelerin Murakabesi Hakkında Kanun" hükümlerine tabi tutulmuştur ve 28906 sayılı, 7 Şubat 2014 tarihli resmi gazete listelenmiştir.
Yasaklanan sentetik psikotrop maddelerin listesi aşağıdaki gibidir;

1. A-834,735 [l-(tetrahydropyran-4-ylmethyl)-lH-indol-3-yl]-(2,2,3,3 -tetramethylcyclopropyl)methanone]
2. EAM-2201 [(l-(5-fluoropentyl)-lH-indol-3-yl)(4-ethyl-l- naphthalenyl)-methanone],
3. JWH-147 [(l-hexyl-5-phenyl-l//-pyrrol-3-yl)-l-naphthalenyl-methanone],
4. JWH-098 [4-methoxynaphthalen-l-yl-(l-pentyl-2-methylindol-3- yl)methanone],
5. JWH-030 [naphthalen-l-yl-(l-pentylpyrrol- 3-yl)methanone],
6. JWH-145 [Naftalen-l-yl(l-pentyl-5-phenyl-lH-pyrrol-3-yl)methanone],
7. JWH-368 [[5-(3-Flourophenyl)-l -pentyl- lH-pyrrol-3-yl]-l- naphthalenyl raethanone],
8. A-836,339 [N-[3-(2-Methoxyethyl)-4,5-dimethyl-l,3-thiazol-2-ylidene] -2,2,3,3 -tetramethyl cyclopropane-1 -carboxamide],
9. CP47,497-C9 [2-[(IR,3S)-3-Hydroxycyclohexyl]-5-(2- methyldecan-2-yl)phenol],
10. CP55,940 [2-[(IR,2R,5R)-5-Hydroxy-2-(3-hydroxypropyl)cyclohexy 1] - 5 -(2-methyloctan-2-yl)phenol)],
11. JTE-907 [N-(Benzo[l,3]dioxol-5-ylmethyl)-7-methoxy-2-oxo-8- pentyloxy-1,2-dihydroquinoline-3-carboxamide],
12. Levonantradol [[(6S,6aR,9R,10aR)- 9-Hydroxy- 6-methyl- 3-[(2R)-5- phenylpentan-2-yl]oxy- 5,6,6a,7,8,9,10,10a-octahydrophenanthridin- 1-yl] acetate],
13. URB-754 [6-Methyl-2-[(4-methylphenyl)amino]-4H-3,l-benzoxazin- 4-on]
14. 2-Methylmethcathinone, 2-MMC, 2-MeMC [2-(Methylamino)-1 - (2-methylphenyl)-1 -propanone],
15. BDB [l-(3,4-Methylenedioxyphenyl)-2-butanamine],
16. N-Hydroxyamphetamine,
17. Lisdexamfetamine (Lisdeksamfetamin) [((2S)-2,6-diamino-N-[(25)-l- phenylpropan-2-yl]hexanamide],
18. l-Fenil-2-butilamin [l-phenyl-2-butylamine],
19. UG6981 [3-(2H-cromen-7-yl)butan-2-amine],
20. Thiopropamine [l-(Tiophen-2-yl)-2-aminopropane],
21. N-benzyl-1 -phenethylamine,
22. 5-MAPB [l-(Benzofuran-5-yl)-N-methylpropan-2-amine],
23. PMMA, Methyl-MA, 4-MMA [para-Metoxy-N-methylamphetamine],
24. 1-Aminoindan [2,3 -Dihydro-1 //-inden-1 -amine],
25. AH-7921 [3,4-Dichloro-N-[(l-dimethylamino)cyclohexyl methyl]benzamide],
26. Nimetazepam [2-Methyl-9-nitro-6-phenyl-2,5-diazabicyclo [5.4.0]undeca-5,8,10,12-tetraen-3-one].

Body packers-Pack mules

- the process of transporting substances into the gastrointestinal tract (from the mouth, the entire digestive system to the anus), the female genital organ (vagina) or other organs (peritoneum, ear, etc.) for the purpose of illegal smuggling.

- Cocaine takes the first place among the most common illegal substances smuggled with this method. Cocaine is followed by heroin. In some rare cases, the smuggled substance is cannabis.

Pack mules

- Condoms, latex gloves, or toy balloons are generally preferred to maintain such substances in the body.
- The natural origin of the digestive system may vary according to the animal species; however, anticholinergic drugs (by slowing the bowel movements) can be administered to prolong this period.
- When they reach the point of delivery of the package, they benefit from defecation enhancers and enemas to remove them from the body as soon as possible. Animals are usually killed

- Diagnosis is made by radiography.
- Infection as a result of inability to use aseptic techniques during the application, especially in dogs, since the drug / substances are surgically placed in the peritoneum.
- Explosion of packages, failure to pack properly - absorption of substance - acute poisoning
- Death

J Am Anim Hosp Assoc. 2009 Mar-Apr;45(2):59-66.

Evaluation of a human on-site urine multidrug test for emergency use with dogs.

Teitler JB[1].

⊕ Author information

Abstract

A rapid, human on-site urine multidrug test was used to screen canine urine samples for the presence of five illegal drugs and drugs from three commonly abused drug classes. Each sample was sent to a toxicology laboratory for gas chromatography/mass spectrometry (GC/MS) validation. On-site test results and GC/MS assays confirmed that the human on-site test kit did identify barbiturates, opiates, benzodiazepines, and amphetamines/methamphetamines in urine from dogs that had received these common illicit drugs/drug classes either intravenously and/or orally. However, neither the on-site test kit nor the GC/MS individual assays for marijuana or methadone, a synthetic opiate, were effective in identifying marijuana and methadone in urine from dogs with suspected or known exposure. No index of suspicion was seen for exposure to phencyclidines or cocaine during the study period, and no exposures were indicated by the on-site test results. Overall, the test is a rapid, readily available, affordable, and useful complement to the veterinarian's clinical consideration and professional judgment.

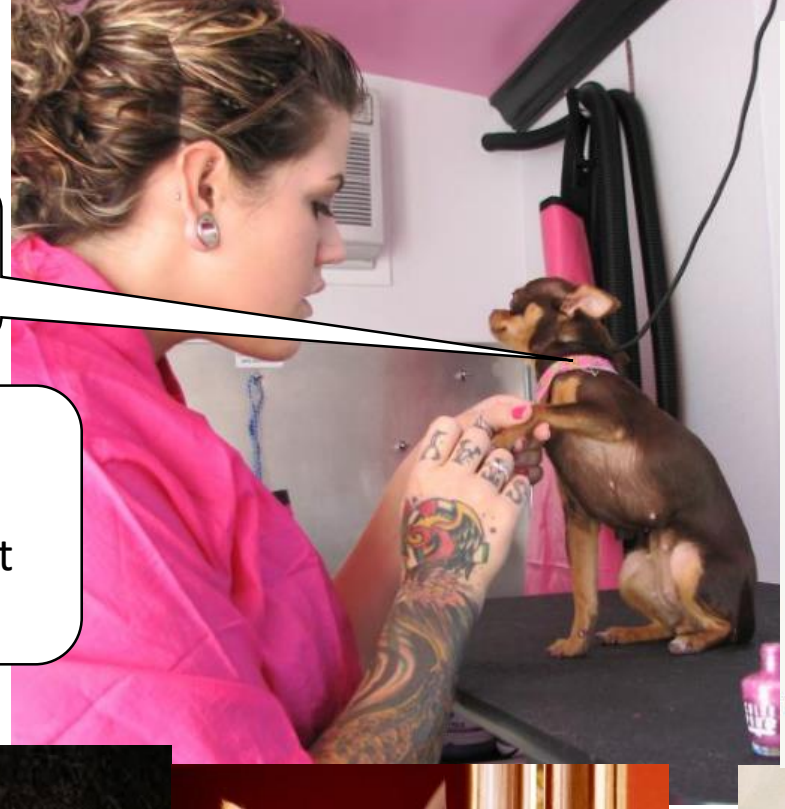
PMID: 19258416 DOI: 10.5326/0450059

- Dogs working in the police and customs can be poisoned more frequently with these substances during their training

Child adultization/ Child abuse
Yetişkinleştirme/İstismar

Animal humanization/ Animal abuse
İnsanlaştırma/İstismar

Toksikolojik bakış:
Endokrin bozucu maddelere maruziyet



All dogs deserve to be clean, bathed, have their nails trimmed and their coats groomed, but some exhibitors take enhancing their dogs' appearance a step too far. Photo by Darak77/Dreamstime.

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