

Practice No. 1

Introduction, examination in the place of poisoning

Introductory information and safety of work

- It's necessary to wear a laboratory gown
- Attendance must be 100 % !!!
- Only 12 students in the practice, no more places in the lab !!!
- You don't have to write official protocols
- You have to subscribe that you have been told how to behave in the lab. In case of pregnancy you must tell it immediately !!!, the lab is a place of an increased teratogenic risk.

RECOMMENDED STUDY LITERATURE:

- lessons, practices: <https://cit.vfu.cz/toxikologie/web2/english/toxen2.htm>
- K. H. Plumlee: Veterinary Toxicology

Examination on the spot of intoxication

- Everything that you find out, you have to write into a protocol. This protocol must be led by a vet, no-one can replace him/her.
- If it is an intoxication of a great number of animals or if there is a suspicion of criminal act, the Police has to be present
- In case fish, honey bees, wildlife is involved, state veterinary inspector must be present as well as in cases of mass deaths to exclude spreading infectious disease and to order obligatory measures to avoid further cases of death
- 4 parts of protocol: anamnesis (case history)
clinical examination
pathoanatomical examination
conclusion + diagnosis
- All the parts of protocol have to be signed by the vet and all other people present: owner, keeper, Police, inspector etc.

ANAMNESIS:

- time, place, health condition + previous treatment, zoohygienic conditions, feed, drinking water, access of animals to other parts of the entity and also access of strange people to that place, storage of fertilizers and seeds, deratisation (rodent control) made in last few weeks, education of the staff etc.

CLINICAL EXAMINATION:

- Temperature ! (TRIAS in general)
- Colour of mucosa
- Pupil
- Convulsions, occurrence of blood, other specific symptoms

- Withdraw INTRAVITAL samples !
 - blood
 - urine
 - vomits
 - if necessary, you can take also excrements, feathers or fur

PATHOLOGICAL-ANATOMICAL EXAMINATION:

- Section – it is not suitable to make it on the spot of intoxication in the presence of other animals. Must be done on a place with easy washable surface.
- Observe colour of organs, their shape, oedema, petechias and other signs of damage, liquids in body cavities
- Withdraw POST MORTEM samples
 - always a sample of liver !
 - always GIT – tie under all the parts in order to avoid their contents to mix
 - spleen (just to observe)
 - if necessary, take also kidneys, lungs, brain, bile, muscle etc.

Withdrawal of samples:

- Organs into the glass bottles with a lid
- Feed into paper (dry) or plastic (mash, liquid) bags
- Water into PET bottles; if it is contaminated with oil substances, then into glass bottles
- Samples NEVER WASH or PUT INTO CONSERVING AGENTS !
- Label samples with a piece of paper, for writing use only pencil – it doesn't smudge, you can write on oily surface. Write their description and your address.

CONCLUSION:

- Decide whether it is a poisoning or not. If yes, send samples into accredited laboratory
- Write what poison it could be – important especially in pesticides (600 kinds).
Important for the lab – what they will test – impossible to test everything !

How to distinguish poisoning from infectious disease?

| | |
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| POISONING: -spleen not oedematous | INFECTION: -swollen spleen and lymphatic nodes |
| -no fever (in seizures may be present - mechanical warmth) | -fever |
| -all animals suffer or die at the same time | -spreads gradually (incubation period) |

First aid:

- Try to stop the action of the poison !
 - put the animal on the fresh air – gaseous poisons
 - wash the skin with pure water (or soap and then water) – contact poisons
 - try to induce vomiting, administer activated charcoal, use specific antidotes – swallowed toxic agents
- Remove feed, water and bedding – put new
- Symptomatic treatment

Specific procedure for the examination of fish and bees poisoning!

FISH POISONING:

- Send samples to specific lab, which examines fish (check the possibilities in your country, in the CR - VFU Brno – department of fish diseases, State veterinary institute or Research Institute of Fish Culture and Hydrobiology, Vodňany)
- Take whole bodies, best if fish are still living with signs of damage. If there is only one species in the water source – take 5-20 pieces, if there are more species take 3-5 pieces from each one
- Withdraw also samples of water – ABOVE, IN and UNDER the place of probable source of contamination – 2-4 l; and sediments in the same places – 2 kg

How to distinguish intoxication and infection in fish?

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|-----------------------------------|---------------------------------------|
| <u>Intoxication</u> : all species | <u>Infection</u> : one species/family |
| immediate fish kill | gradual fish kill |
| full stomach (not in winter) | empty stomach |

POISONING IN WILD ANIMALS:

- Send it to State veterinary institute.

POISONING IN HONEYBEES:

- Take approximately 500 pieces of bees = 60 g
- Withdraw also 200 g of plants on which pesticides were applied (pesticides are the source of death in 99 %)
- It is necessary to send them to lab within 72 hours after pesticide application – the breakdown starts very quickly – later no detection
- Send the samples to State veterinary institute
- The examination is conducted by State veterinary administration; State phytosanitary administration, the owner of the bees and the person who applied the pesticide are also present

Practical part: Educational video Poisoning in pigs, video about Minamata disease