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Amanita daple intoxication, manifesting as stroke

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SUMMARY
Authors describe two cases of intoxications imitating of morphological changes in the brain in this work. Initially it was meant to stem a stroke. Later, it was found that it is an intoxication by Amanita dapple. To this must be meant in practice and at the first contact with the patient.

Keywords: Toxicology – poisoning – Amanita dapple – stroke

Intoxikace muchomůrkou projevující se jako cévní mozková příhoda

SOUHRN
Autoři v této práci popisují dva případy intoxikací napodobujících morfologické změny v mozku. Původně byl nález u pacientů hodnocen jako cévní mozková příhoda. Později se zjistilo, že jde o intoxikaci muchomůrkou tygrovanou. Na to je třeba pomýšlet v praxi už při prvním kontaktu s pacientem.

Klíčová slova: toxikologie – otrava – muchomůrka tygrovaná – cévní mozková příhoda

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Accurately identifying the difference between heavy ethanol intoxication and concussion or other damage to the brain caused by blunt objects is a common challenge for paramedics in the field. Many brain injuries are caused by consumption of alcohol, and there are almost no differences between acute alcohol abuse (nauzea, vomitus, cephalea, amnesia) and commotio celebri. Intoxication caused by specific types of mushrooms that have effects on the CNS can appear identical to the influence of alcohol. What is not well known is that intoxication caused by mushrooms can also manifest itself in similar ways as morfologic changes in the brain. This paper describes two cases of poisoning which imitated pathological morphologic brain modification which was treated as a master brain stroke. It was only later discovered that the cause was an intoxication by Amanita pantherina. Amanita dapple (Amanita pantherina) contains the toxic substance muskarin, but this relatively small amount does not play any great vital importance. The main important toxic substances are isoxazols - volatile iboten acid (α-amino-3-hydroxy-5-octoisoxazol acid), which can be boiled into muscimol. It is 5-10 times more toxic than iboten acid itself. Iboten acid is structurally similar to glutamic acid, which serves as a carrier signal in the nervous system. In the second phase of its operation, however, the transmission of signals is blocked (is stopped). The structure of muscimol is similar to gamaaminobutyric acid. The first symptoms of poisoning appear typically from 30 minutes to 2 hours after consumption of the mushroom, are fully developed after 2-3 hours, and usually last 4-8 hours. Isoxazols cause toxic psychosis. This is very similar to the effects of alcohol, and in most cases ends with sleepiness. Deep coma is a fairly rare, but can come about as a result of other complications. Objective diagnosis is based on laboratory tests using a toxin separation method. To detect iboten acid and muscimol in biological material one can use the method of gas chromatography with mass spectroscopy (1,2).

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Case 1

Woman, 72-years old, brain stroke 2 years ago with dominate clinical symptoms - ataxia, vomiting and visual hallucination. After treatment all symtoms were rearranged "ad integrum". Now, after collaps was transported to the hospital. When Medical rescue service arrived at the place of collaps, she was conscious, with good contact, stable vital functions, without fever and normoglycemic. During transport to the hospital quantitative consciousness got worse and after admission to the Emergency department, the clinical status deteriorated to a state where the patient was able to communicate only with a few incoherent words. Glasgow Coma Scale – GCS 12, disquiet and myoclonia is developing quickly. The preliminary diagnosis was a brain stroke, that's why CT scan of the brain, including angiography of intra and extracranial blood vessels, was indicated. CT scan didn't confirm a development of new pathological changes to compare with a CT scan of the brain from 2015. Next worsening of consciousness to GCS 5 led to endotracheal intubation and artificial ventilation. Nasogastric tube was placed to the stomach. With regard to case history and time from collaps, which was 110 minutes, neurologist indicates systemic intravenous administration of Actilyse (to dissolve possible trombus). Later patient's family completes a case history and marginaly informs doctor about consumption of mushrooms from their house garden. The information is so serious, that in this time doctor takes a sample of food from

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nasogastric tube to a toxicological investigation. After consultation with toxicological centre, doctor declares for suspicion from poisoning of Amanita pantherina. Patient in this time was located on the Department of anaesthesiology, resuscitation and intensive care medicine. After 36 hours the patient is fully conscious and fulfilled criterions for extubation. During a followup investigation by a neurologist the patient had stable circulation, was fully oriented and herself confirms the mistake of eating a wrong species of mushrooms.

Case 2

A 64-years old woman (without internal or neurological disorders) was sent to Emergency from an internal outpatient department of the District Hospital, with suspicion of a brain stroke. After admission to Emergency the patient communicates and evaluates her status as drunkenness, but she doesn't confirm consumption of any alcohol. She reports nausea and vertigo. According to neurological investigation a strong speech disorder is present – especially stammering speech and vestibulo – cerebellar symptomatology. The neurologist indicates CT scan including angiography. The investigation doesn't confirm serious ischemic or trombotic event. Administration of intravascular trombolysis was indicated. After 15 minutes from finishing of administration of a trombolytic agent, serious allergic reaction develops as angioneurotic swelling (tongue and lips oedema). An urgent intubation and artificial ventilation was necessary to prevent the anoxic event from obstructing the upper airways. After admission of this patient to the ICU a neighbour came with a residue of mushrooms fillets, which the woman in question ate 40 minutes before the development of neurological symptoms, which looked just like a brain stroke. In the context of clinical findings and toxicological investigation it was confirmed that an intoxication of Amanita pantherina had occurred. The patient was extubated after 48 hours. Neurological status was good, without lateralization or focal symptomatology.

CONCLUSION

The symptomatology of intoxication by Amanita pantherina and acute brain strokes are easily interchangeable without toxicological investigation, and can bring about a lot of unexpected difficulties especially in out-of-hospital interventions. Fortunately the intoxication by Amanita pantherina doesn't in most cases lead to death. Nevertheless a treatment of false brain stroke by systemic intravascular trombolysis is dangerous from its possible serious side effects of intracranial or systemic haemorrhage and severe allergy, which can be lethal. That's why obtaining fast and correct anamnestic information about the last food that the patient had eaten is crucial.

REFERENCES

1. **Antonín, V, Tomková, J.** Toxicology of macromycetes – agarics (Toxikologie makromycetů – velkých kloboukatých hub). *In:* Soudní lékařství. Praha: Grada Publishing; 2016: 59
2. **Stříbrný, J, Sokol, M, Merova, B, Ondra, P.** GC/MS determination of ibotenic acid and muscimol in the urine of patients intoxicated with Amanita pantherina. *Int J Legal Med* 2012; 126: 519-524.