

Grzyby halucynogenne i białuń dziedzierzawa w diagnostyce laboratoryjnej zatruc

Hallucinogenic mushrooms and datura species in the laboratory diagnosis of poisoning

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Abstract – In the world of plants and mushrooms, until the present time, approximately 200 species with hallucinogenic properties have been detected. In Poland psilocybe (łyśniczka) and datura species (e.g. białuń dziedzierzawa) represent the most common hallucinogenic mushrooms. Due to their easy availability and low cost, both the hallucinogenic mushrooms and datura are desirable among young people who are dependent on drugs, or experiment with different mind altering substances. Although mushrooms and datura are seasonal plants related poisoning can practically occur during the whole year.

So far, research on the consumption of hallucinogenic mushrooms indicates that they do not cause physical addiction, despite increasing tolerance with long-term use. However, they can cause mental or psychological addiction.

The main toxic substances of the hallucinogenic mushrooms are psilocybin and psilocin, which have pharmacologic properties similar to LSD. Datura (białuń dziedzierzawa) contains toxic tropane alkaloids, mostly hioscyamine (scopolamine) and atropine (an antagonist of acetylcholine) as the main active compound.

Because of the easy access of young people to both natural and farmed hallucinogenic mushrooms, as well as to datura seeds and leaves, toxicology laboratories at poison centres have developed and performed specific tests which allow confirmation of ingestion of these toxic plants. The main diagnostic method is the thin layer chromatography (TLC) which is applied for the detection of tropane alkaloids (atropine and scopolamine) present in datura, and indole derivatives (psilocybin and psilocin) contained in the mushrooms.

Although, lethal poisoning due to ingestion of hallucinogenic mushrooms or datura seeds and leaves occurs very rarely, these plants create a real risk and danger for children and adolescents since very often, even via the Internet, they are advertised as a “free” and easily accessible alternative to strong narcotic drugs.

Key words: hallucinogenic mushrooms, datura species, tropane alkaloids, psilocybin, psilocin, dependence, detection methods

Streszczenie – W świecie roślin i grzybów wykryto do tej pory ponad 200 gatunków o właściwościach halucynogennych. W Polsce najłatwiej o grzyby halucynogenne z rodzaju łyśniczka (Psilocybe) oraz białunie (datura, np. białuń dziedzierzawa). Dzięki ich łatwej dostępności i niewielkim kosztom uzyskania, zarówno grzyby halucynogenne, jak i datura są poszukiwane przez młodzież eksperymentującą z różnymi substancjami zmieniającymi świadomość.