Accidental *Panaeolus foenisecii* exposures: No clinically relevant effects in children


1 National Poisons Centre Tox Info Suisse, Associated Institute of the University of Zurich, Zurich, Switzerland, 2 Poisons Information Centre Erfurt, Germany, 3 Poisons Center and Clinical Toxicology, Mainz, Germany, 4 Toxikologische Abteilung, Klinikum rechts der Isar, Technical University Munich, Germany, 5 GIZ – Nord Poisons Center, University Medical Center Goettingen, Germany, 6 Poisons Information Centre Berlin, Germany, 7 Poisons Information Centre, University Medical Centre Freiburg, Germany, 8 Society for Clinical Toxicology (Gesellschaft für Klinische Toxikologie) GfKT

### Objectives

Accidental exposure to little brown mushrooms is a matter of concern, especially in case of paediatric exposures. Regarding *Panaeolus foenisecii* historic and current literature offers little help to poisons information centres in terms of correct risk assessment. Anecdotal case reports from the 1960’s and 1970’s describe symptomatic children after possible ingestion of *Panaeolus foenisecii* (1). However causality was then already doubted. Cooles reports the case of three young men with a history of hallucinogenic mushroom abuse experiencing hallucinogenic symptoms after deliberate consumption of 20 to 30 mushrooms of *Panaeolus foenisecii* (2). On the other hand an analytical study found neither Psilocybin nor Psilocin in *Panaeolus foenisecii* (3). In popular handbooks *Panaeolus foenisecii* is sometimes claimed to be hallucinogenic despite negative analytical reports by several authors (4).

Objective of the study was to assess possible toxic effects of *Panaeolus foenisecii* in case of accidental exposure.

### Methods

Basis for this analysis is a prospectively designed, observational database (ProPi) powered by working group III of the Society for Clinical Toxicology (Gesellschaft für Klinische Toxikologie, GfKT) especially dedicated to elucidate toxicity of mushrooms of so far uncertain toxicity. Inclusion criteria for this study were accidental ingestion of at least 1cm³ of a single mushroom species. Follow up of at least 4 hours and identification of the mushroom by a certified mycologist was mandatory.

### ProPi – a joint project of German speaking Poisons Information Centres (GfKT)

- The GfKT [Gesellschaft für klinische Toxikologie / Society for Clinical Toxicology] provides a web-based database which enables the member poisons information centres (PC) to exchange case data in a harmonized, anonymized structure. This data format was developed to exchange cases of mono-intoxications with therapeutic drugs (working group I of the GfKT) and cases of fatal intoxications (working group IV). Most PCs can transfer their local data to this data format (semi-) automatically.
- For this study these data included age and gender of the patient, scientific name of the mushroom, amount ingested, clinical course (symptoms, severity).
- The pre-existing GfKT database was extended by six ProPi-specific fields to meet the special needs of this study: Preparation of the mushroom (fried or cooked - if applicable how long, deep frozen), co-ingestion of alcohol, identification of the mushroom (microscopically or macroscopically only), further information about the origin of the mushroom (self collected vs. bought, region - e.g. postal code), specific therapy.
- If more than 1 cm³ of mushroom was ingested, identification by a mycologist was initiated as well as administration of activated charcoal. Treatment was recommended according to the result of the identification and the patients history. In selected cases the callers were called back for follow up information. This is the standard procedure in the participating PCs.
- After giving consent by phone the callers and/or patients were inquired more in detail, as were the mycologists and the results were uploaded to the common data base.

### Results

19 cases of exposure to *Panaeolus foenisecii* met all inclusion criteria. Only children were involved, 10 girls and 9 boys. Age was between 1 and 10 years, median 3.25 years. Circumstance of exposure was accidental in all cases. Quantity ingested was reported as 1-2 mushrooms in 14 cases and 3-5 mushrooms in 5 cases. Three patients received a single dose of activated charcoal. 16/19 cases did not develop any symptoms, 2/19 complained of minor abdominal discomfort, one child was temporarily slightly more active according to the mother. This episode lasted one hour. Outcome was favourable in all cases.

### Conclusion

Our prospective case series with mushrooms identified by a mycologist demonstrates that the typically small amounts of *Panaeolus foenisecii* ingested by children probably do not lead to clinically relevant symptoms of the central nervous system.

### References:

1) www.erowid.org, accessed April 30, 2015