

LETTER TO THE EDITOR

WILD MUSHROOM POISONINGS IN HONG KONG

Dear Sir,

Some people pick wild mushrooms for consumption, although distinguishing between edible mushrooms and poisonous species is difficult. The accidental ingestion of wild, toxic mushrooms is increasingly reported around the world (Diaz, 2005). In Asia, most reports are from Japan (Tayfur and Unluoglu, 2003); case studies from other countries are mainly based on the experience of a single center (Fernando and Fernando, 1990; Chaiear *et al*, 1999).

In Hong Kong, about 10% of the over 380 known species of mushroom are poisonous (Centre for Food Safety, 2007). Mushroom picking has gained popularity. Wild mushroom poisonings are investigated by the Department of Health and the findings are announced in press releases (<http://www.dh.gov.hk/english/press/press.html>) or as news in "Communicable Diseases Watch" (http://www.chp.gov.hk/en/guideline1_year/29/134/441/112.html).

Correspondence: Thomas YK Chan, Division of Clinical Pharmacology, Department of Medicine and Therapeutics, Faculty of Medicine, The Chinese University of Hong Kong, Prince of Wales Hospital, Shatin, New Territories, Hong Kong, China.

Tel: (852) 2632 3907

E-mail: tykchan@cuhk.edu.hk

Siu-Wai Chiu, School of Life Sciences, Faculty of Science, The Chinese University of Hong Kong, Shatin, New Territories, Hong Kong, China.

Tel: (852) 2609 6101

E-mail: swchiu@cuhk.edu.hk

During January 2002 and May 2005, wild mushroom poisonings in 13 persons were reported (Centre for Health Protection, 2005). Gastrointestinal and neurological symptoms occurred 0.5 to 5 hours after ingestion of wild mushrooms. These included vomiting (100%), abdominal pain (100%), diarrhea (69%), nausea (56%), dizziness (50%) and numbness (31%). Other symptoms included sweating (37%), palpitations (19%), malaise (13%), fever (13%) and headache (6%). During May 2007 and August 2010, wild mushroom poisonings in 7 patients were reported. After a latent period of 15 minutes to 3 hours, patients developed vomiting (100%), diarrhea (100%), nausea (57%), abdominal pain (43%), dizziness (71%), weakness (23%), sweating (23%), blurred vision (23%), coldness (23%) and palpitations (14%). All 20 patients fully recovered. Eight out of the 20 patients required hospitalization. Incomplete information was available about the mushroom species responsible. In the July 2004 outbreak involving 3 family members, the toxic mushroom belonged to the *Lepiota cristata* species. In the two incidents of May 2005 affecting 3 persons, the *Lepiota cristata* and *Macrolepiota neomastoidea* species were involved. In the May 2007 outbreak affecting 2 patients, the uncooked wild mushrooms was tested positive for muscarine, which occurs naturally in certain mushrooms, particularly in *Inocybe* and *Clitocybe* species. Muscarine is a heat-stable parasympathomimetic compound that acts like acetylcholine but is not degraded by cholinesterase and thereby

has a longer duration of effect (Berger and Guss, 2005).

Most mushrooms that cause poisoning cannot be made non-toxic by cooking or other means of processing. Distinguishing between poisonous and edible species is difficult. The best preventive measure is to educate the public not to pick and eat any wild mushrooms. Nationwide studies are required to determine the incidence and severity of wild mushroom poisonings.

REFERENCES

- Berger KJ, Guss DA. Mycotoxins revisited: Part II. *J Emerg Med* 2005; 28: 175-83.
- Centre for Food Safety, Hong Kong. Food safety focus (11th issue), 2007. [Cited 2010 Jul 16]. Available from: URL: http://www.cfs.gov.hk/sc_chi/multimedia/multimedia_pub/files/FSF11%202007-06-20.pdf
- Centre for Health Protection. Food poisoning associated with wild mushroom. *Communic Dis Watch* 2005; 2: 41-2.
- Chaiear K, Limpiboon R, Meechai C, Poovorawan Y. Fatal mushroom poisoning caused by *Amanita virosa* in Thailand. *Southeast Asian J Trop Med Public Health* 1999; 30: 157-60.
- Diaz JH. Evolving global epidemiology, syndromic classification, general management, and prevention of unknown mushroom poisonings. *Crit Care Med* 2005; 33: 419-26.
- Fernando R, Fernando DN. Poisoning with plants and mushrooms in Sri Lanka: a retrospective hospital based study. *Vet Hum Toxicol* 1990; 32: 579-81.
- Tayfur M, Unluoglu I. Mushroom poisoning: an analysis of the data between 1996 and 2000. *Eur J Emerg Med* 2003; 46: 1071-8.