

## ANSWER TO PHOTO QUIZ (PAGE 136)

## A 39-YEAR-OLD WOMAN WITH A MUSHROOM INTOXICATION

## ANSWERS

*Amanita phalloides* (death cap) contains highly toxic amanitins. Dosages of 0.1-0.5 mg/kg may be lethal, whereas the average death cap contains 80 mg. Classically the first symptoms of abdominal pain, (bloody) diarrhoea, nausea and vomiting emerge 6 to 24 hours after ingestion. With appropriate care the patient may soon improve. However, amanitins entering the hepatocyte will continue to inhibit RNA polymerase II, leading to a stop in protein synthesis and subsequent hepatic failure. This generally occurs 24 to 36 hours after ingestion and is accompanied by a rapid elevation of liver transaminases, often complicated by renal tubular necrosis.<sup>1</sup> The reference standard test for detection of amanitin is ELISA urinalysis (sensitivity 60%, specificity 100%) performed 6 to 24 hours after intoxication.<sup>2</sup> However, this test was not readily available and a bedside test, known as the Meixner test, was performed.<sup>3</sup> Based on the history in combination with the positive test, we started treatment promptly with activated charcoal and N-acetylcysteine (150 mg/kg in the first 15 minutes followed by 150 mg/kg/day). Moreover, silibinin was urgently ordered and administered intravenously at 5 mg/kg during the first hour, followed by 20 mg/kg/day. Silibinin, derived from milk thistles, inhibits uptake of amanitin in human hepatocytes and was successfully used in several case reports.<sup>4,5</sup> Two days later, the presence of amanitins was confirmed by urinalysis. During this period, the patient's liver tests deteriorated rapidly. Fortunately, on day 3 all the tests improved (table 2) and our patient recovered well without the need of a liver transplantation.

The blue colour arises from a reaction with lignin (present in most poor-quality paper, such as newspaper); false-positives resulting from this reaction are reported to be rare. However, blue pigments in a mushroom may yield false-positive results. Therefore, a negative control test on lignin-free (office) paper may increase the specificity. Findings should always be confirmed with a urinary ELISA test.<sup>6,7</sup> This case clearly illustrates how the Meixner test may expedite the diagnosis of *Amanita* intoxication; patients should be treated as soon as possible with N-acetylcysteine and activated charcoal, as well as silibinin.

## REFERENCES

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Table 2. Progression of lab results

	October 13 (2 days after ingestion)		October 15	October 18
	10:00	23:00		
Bilirubin (µmol/l)	41	69	85	60
ASAT (U/l)	20	881	3661	260
ALAT U/l	22	1015	5776	3400
LDH (U/l)	173	557	2106	242
PT (INR)	1.02	1.8	3.5	1.2

ASAT = aspartate aminotransferase; ALAT = alanine aminotransferase; LDH = lactate dehydrogenase; PT = prothrombin time; INR – international normalised ratio.