

## Amanita Phalloides Mushroom Poisoning: A Case Report

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### Introduction

According to the Food Safety Authority of Ireland (FSAI), there are a lot of native species of mushrooms growing in Ireland, of which 13 species are hazardous and can cause hepatic and renal toxicity and, ultimately, can be life-threatening. [1]

Amanita phalloides (the death cap) represent the most common and deadly cause of mushroom poisoning. Amanita phalloides produce Amanitins, potent toxins targeting the liver by inhibiting RNA

polymerase II, impairing protein synthesis, and leading to cell necrosis.

After an asymptomatic phase, the clinical picture is characterized by gastrointestinal symptoms, followed by hepatic involvement, which progresses into acute liver failure and eventually death in 10 to 20 % of cases if liver transplantation is not performed. [2]



Image of the mushroom Amanita phalloides, commonly known as the death cap.

### Case report

A 24-year-old man presented with gastrointestinal symptoms, vomiting, diarrhoea, and abdominal pain 10 hours after ingesting wild mushrooms during a camping trip. He has no known medical comorbidities. Later, he progressed to acute hepatic failure attributed to Amanita Phalloides poisoning and mandated transfer to the regional liver transplant center.

On presentation, Liver enzymes were extremely high (ALT 13,000 U/L and AST 12,000 U/L), and INR was 2.8.

Management included supportive care to administer fluid losses caused by vomiting and diarrhoea. A continuous intravenous infusion

of both Benzylpenicillin (300,000 unit/Kg/day) and N-acetylcysteine (100 mg/Kg/day) was instituted. 2 sessions of plasma exchange 24 hours apart with replacement with fresh frozen plasma were performed.

24 hours after starting the above management, hepatic function continued to improve with an INR of 1.5, ALT 1700, and an AST 780. The patient was transferred to ward-level management after 48 hours with ongoing improvement in overall condition.

## Discussion

Severe mushroom intoxication caused by amanitin remains an unresolved problem in clinical toxicology because no specific, fully efficient antidote is readily available.

Early detection and prompt management are essential for better outcomes of mushroom poisoning.

Penicillin G displaces amanitin from plasma proteins, thus promoting its excretion and preventing its hepatic uptake. However, studies failed to prove its clinical efficacy. [3]

## Conclusion

In our case, the combination of early fluid resuscitation, administration of suggested antidotes such as Benzylpenicillin and N-

Data suggesting hepatoprotection by antioxidants support N-Acetylcysteine (NAC) in managing amanitin intoxication.

Overall results of studies found N-Acetylcysteine to be effective in mushroom poisoning. [4]

Therapeutic plasma exchange was associated with improved liver function in 9 patients with amanitin poisoning. [5]

Acetylcysteine, and the performance of plasma exchange proved effective in managing Amanita Phalloides mushroom poisoning.

## References

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