

Poster Abstracts

PO-55

ULTRASOUND GUIDED SIMPLE GALLBLADDER ASPIRATION FOR AMATOXIN MUSHROOM POISONING (AMP) INDUCED HEPATOTOXICITY AND FULMINANT HEPATIC FAILURE: AN EFFECTIVE TREATMENT ALTERNATIVE WHEN IV SILIBININ IS UNAVAILABLE OR LIKELY TO FAIL

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Objectives: IV silibinin combined with sustained aggressive IV hydration reliably reverses severe amatoxin induced liver failure & induces recovery, but there is no effective pharmacological alternative for developing countries where the drug is unavailable or when oliguric AKI renders SIL treatment failure virtually inevitable. Beagles with surgical biliary fistulas survived fatal amatoxin doses, suffering far milder liver injury than controls. An encephalopathic St Louis AMP with peak INR 5.9 rapidly recovered following ERCP nasobiliary drain placement with suction in a 2006 publication. Over 4 mg amatoxin (7.24 mcg/ml alphaamanitin) was recovered from 3 days bile collection.

Methods: Six severe Assamese AMPs received FFP before undergoing surgical open cholecystostomy. Three died shortly afterwards from preexisting FHF complications. Three with INRs > 4 but intact renal function rapidly recovered. An American ingested 5 large deathcap mushrooms, quickly recovering from severe FHF after Percutaneous Cholecystostomy (PC) by IR. 72 hour aggregate bile samples from each Indian & daily American samples underwent HPLC analysis.

Results: Indian specimens contained 3.0611.67mcg/ml of alphaamanitin. No detectable amanitin was measured in subsequent daily American samples, but bile aspirated during the PC procedure itself contained 22.3 mcg/ml. ERCP, PC & simple gallbladder aspiration has subsequently been associated with FHF recoveries in Hanoi, Assam, Vancouver & 2 California dogs. The American suffered mild bile peritonitis following tube removal 14 days post PC requiring analgesia & overnight hospital observation.

Conclusions: Ultrasound guided simple gallbladder aspiration is a promising AMP treatment alternative when SIL is unavailable (*developing countries*) or likely to fail (*oliguric AKI*). The procedure is minimally invasive, technically straightforward & quickly accomplished at the bedside using local anesthetic. Risks of infection, hemorrhage & bile peritonitis are substantially reduced compared to PC which requires Interventional Radiology & 24weeks of tract maturation before removal. Tube placement may be unnecessary; most measurable amanitin appears to be removed with one complete aspiration, which can be performed again 2448 hours later. Transhepatic approach before

coagulopathy (INR >1.6) develops, otherwise transperitoneal, following prophylactic FFP

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administration. ERCP nasobiliary drain placement requires a highly trained GI specialist, general anesthesia, OR time & OR staff. ERCP has 50% failure rate & 5% risk of pancreatitis. Hemorrhage is likely if a sphincterotomy is cut. Gold standard LCMS

amanitin quantification from bile is under active development. Bile matrix amanitin extraction has proven challenging due to high salt, particulate & lipid content interfering with MS ionization chromatography.