094 Eddleston, M; Juszczak, E; Buckley, NA; Senarathna, L; Mohammed, F; Allen, S; Dissanayake, W; Hittarage, A; Azher, S; Jeganathan, K; Jayamanne, S; **Sheriff, MHR**; Warrell, DA

Study protocol: a randomised controlled trial of multiple and single dose activated charcoal for acute self-poisoning; JArticle; BMC Emergency Medicine; Vol: 7; No.(2); 2007_.pp

Abstract : Background: The case fatality for intentional self-poisoning in rural Asia is 10-30 times higher than in the West, mostly due to the use of highly toxic poisons. Activated charcoal is a widely available intervention that may - if given early - bind to poisons in the stomach and prevent their absorption. Current guidelines recommend giving a single dose of charcoal (SDAC) if patients arrive within an hour of ingestion. Multiple doses (MDAC) may increase poison elimination at a later time by interrupting any enterohepatic or enterovascular circulations. The effectiveness of SDAC or MDAC is unknown. Since most patients present to hospital after one hour, we considered MDAC to have a higher likelihood of clinical benefit and set up a study to compare MDAC with no charcoal. A third arm of SDAC was added to help determine whether any benefit noted from MDAC resulted from the first dose or all doses. Methods/design: We set up a randomised controlled trial assessing the effectiveness of superactivated charcoal in unselected adult self-poisoning patients admitted to the adult medical wards of three Sri Lankan secondary hospitals. Patients were randomised to standard treatment or standard treatment plus either a single 50 g dose of superactivated charcoal dissolved in 300 ml of water or six doses every four hours. All patients with a history of poison ingestion were approached concerning the study and written informed consent taken from each patient, or their relative (for unconscious patients or those <16 yrs), recruited to the study. The exclusion criteria were: age under 14 yrs; prior treatment with activated charcoal during this poisoning episode; pregnancy; ingestion of a corrosive or hydrocarbon; requirement for oral medication; inability of the medical staff to intubate the patient with a Glasgow Coma Score <13; presentation >72 hrs post-ingestion, and previous recruitment. The primary outcome was in-hospital mortality; secondary outcomes included the occurrence of serious complications (need for intubation, time requiring assisted ventilation, fits, cardiac dysrhythmias). Analysis will be on an intention-to-treat basis; the effects of reported time to treatment after poisoning

and status on admission will also be assessed. Discussion: This trial will provide important information on the effectiveness of both single and multiple dose activated charcoal in the forms of poisoning commonly seen in rural Asia. If charcoal is found to be effective, it should be possible to make it widely available across rural Asia in an affordable formulation.