

ORAL PRESENTATIONS

[ID-O#006] A non-inferiority randomised controlled trial of a Shorter Acetylcysteine Regimen for Paracetamol Overdose: The SARPO trial

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Background: Paracetamol is a common medication taken in overdose worldwide. Early treatment with acetylcysteine can prevent hepatotoxicity. Multiple acetylcysteine regimens exist, with the recommended regimen in Australia delivering 300mg/kg acetylcysteine over 20h. We investigated the effectiveness and safety of a shorter dosing regimen for patients ingesting <30g paracetamol.

Methods: In a multicentre non-inferiority randomised placebo-controlled trial, 205 patients with an acute overdose of <30g paracetamol presenting within 8h, were randomised to either the standard 20h acetylcysteine (200mg/kg over 4h, 100mg/kg over 16h) regimen or an experimental 12h acetylcysteine (200mg/kg over 4h, 50mg/kg over 8h) regimen. The primary outcome was the absolute difference between the alanine transaminase (ALT) on admission and ALT 24h post-ingestion – deltaALT24. Secondary outcomes were the proportion of patients with systemic hypersensitivity reactions or gastrointestinal adverse effects within 12h of treatment, and proportion of patients with an ALT>150U/L and double the admission ALT at 24h. (Australian New Zealand Clinical Trials Registry number ACTRN12616001617459).

Results: There was no difference between the deltaALT24 for 107 patients receiving the shorter regimen, median of -2U/L (Interquartile range[IQR]:-7 to 1.3U/L) compared to 97 patients receiving the standard regimen, median -1U/L (IQR:-5 to 1.5U/L; difference in medians of -1U/L; 95% confidence interval [CI] -2 to 1U/L; p=0.381). Systemic hypersensitivity reactions were similar between groups 9/107 (8%) for the short regimen versus 10/98 (10%) in the standard regimen (absolute difference, 2%; 95% CI: -7 to 11%). No patients receiving the shorter regimen had an ALT at 24h double the admission value and >150U/L, compared to one (1%) patient receiving the standard regimen. No patients had an ALT>1000U/L.

Conclusions: A shorter 12h regimen of acetylcysteine had the same effectiveness and safety as the standard 20h regime in moderate paracetamol overdoses, almost halving the length of treatment required.