PWE-278 DOES N-ACETYL CYSTEINE MODULATE RENAL FUNCTION AFTER MAJOR HEPATECTOMY?

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Introduction Acute kidney injury or deterioration in pre-existing renal dysfunction following major hepatectomy is an important cause of morbidity and mortality. N-acetyl cysteine has been extensively utilised as a reno-protective agent to ameliorate contrast induced nephropathy. The aim of this study was to investigate its potential use for preserving renal function following major hepatectomy.

Methods A prospective study to compare the impact of N-Acetyl cysteine (NAC) on liver function after hepatectomy was undertaken in our Unit from 2004 to 2010. A cohort of 44 patients received perioperative NAC (10 g/24 h) for 5 days and were compared to a further cohort of 44 patients (matched for the extent of liver resection—all more than three segments), gender, age and chemotherapy use) who did not. Post-operative renal function was evaluated. Other variables known to influence renal function included associated co-morbidity, drugs, intra-operative parameters (e.g., CVP and blood loss). In addition to calculating the renal risk index as described by Clavien et al. We also examined other outcome measures such as duration of renal support and long-term renal specific outcomes.

Results There were three patients with known CKD in the NAC group as compared to one in the control group. Mean (SD) pre-operative creatinine levels [9.9 (20.5), 92.5 (19.3) p=0.7], BMI [26.9 (14.5), 28.9 (15.1) p=0.3], operating time (h) [6 (1.9), 5.5 (1.7), p=0.9]. The mean renal risk index were also similar between the NAC and control group. Mean (SD) creatinine rise (delta creatinine) between days 1 and 5 in the post-operative period, were also similar between the 2 groups [NAC 43.8 (82.9) vs Control 49.2 (63.5), p=0.72]. Renal support in the form of CVVH was needed in three patients in the study group vs one in the control group (all known to have pre-existing CKD). All these patients went back to their pre-operative renal status at 3-months follow-up.

Conclusion In this study NAC does not appear to be reno-protective in patients with known renal impairment who require a major liver resection. Its presumed renoprotective role in those at “high risk” needs to be further assessed in an adequately powered RCT.

Competing interests None declared.