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THE EFFECT OF COINGESTION OF ASPIRIN AND NSAIDS ON PARACETAMOL-INDUCED LIVER FAILURE: A SINGLE CENTRE CASE CONTROLLED STUDY

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L Salter,[1,*] G Masterton,[2] J Davidson,[2] D Craig,[2] C Bates,[2] K Simpson[3] [1]*Medical School, University of Edinburgh, Edinburgh, UK;* [2]*Hepatology, Royal Infirmary of Edinburgh, Edinburgh, UK;* [3]*University of Edinburgh, Edinburgh, UK*

Introduction Acute liver failure (ALF), which has a high risk of death or emergency liver transplantation, is most commonly caused by paracetamol overdose (POD) in the UK. A murine study suggested aspirin could improve survival following POD induced hepatotoxicity. The aim of this case control study was to determine if coingestion of aspirin or other non-steroidal drugs (NSAIDs) influenced outcome in humans with severe liver injury following POD.

Methods Age, sex and year of admission matched cohort of 46 pairs of patients (15 aspirin, 28 NSAIDs and 3 NSAIDs and aspirin) with POD induced liver injury were identified from a prospectively collected database of patients with POD admitted to the Scottish Liver Transplantation Unit (SLTU). Statistical analysis including Kaplan–Meier (KM) survival analysis was performed using SPSS v14.

Results Spontaneous survival trended towards significance for NSAID/aspirin coingestion (38/46, 82.6%, survived) compared with controls (28/46, 60.9%, p=0.08), when death and transplant were considered as a single outcome. Survival was significant for NSAIDs alone (NSAID 24/28, 85.7%; controls 14/28, 50%, p<0.01) and wasn't for aspirin alone. KM analysis produced similar results. Analysis of admission variables of

potential prognostic significance revealed that in the NSAID alone cohort, hepatic encephalopathy frequency was significantly lower (NSAID 9/28, 33%; controls 22/28, 79%, p<0.01) as was PT when presenting at SLTU (NSAID 54.0, 42.4 to 65.6 mean, 95% CI; controls 76.1, 64.0 to 88.2, p<0.01).

Conclusion Contrary to the murine study, this analysis demonstrated that co-ingestion of NSAIDs, not aspirin, improves outcome in severe liver injury following POD. This could be helpful therapeutically.

Competing interests None.

Keywords liver failure, non-steroidal anti-inflammatory drugs, paracetamol overdose.