

## **REPORTED INGESTED DOSE OF PARACETAMOL IS A POOR PREDICTOR OF RISK IN PATIENTS WITH PARACETAMOL POISONING.**

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**Introduction:** Despite the increasing incidence of paracetamol poisoning in South Asia, plasma paracetamol concentrations are not widely available. Therefore treatment decisions often have to be based on the reported ingested dose of paracetamol. The aim of this study was to determine how good the history of ingested dose is at predicting risk in patients with paracetamol poisoning. **Methods:** A four year retrospective review of our clinical toxicology database was undertaken to identify all patients presenting to our clinical toxicology service with non-staggered paracetamol overdose in whom there was data on the reported ingested paracetamol dose and the reported time of ingestion and who had a plasma paracetamol concentration taken between four and sixteen hours of ingestion. Plasma paracetamol concentrations were back extrapolated to four hours to allow calculation of the correlation between reported ingested dose and plasma paracetamol concentration. Plasma paracetamol concentration was considered as the gold standard and the positive/negative predictive value, specificity and sensitivity were calculated for the reported ingested dose in predicting toxicity on the Rumack–Matthew nomogram. **Results:** 285 patients were identified. There was poor correlation between reported ingested dose and the plasma paracetamol concentration ( $r^2 = 0.16$ ). The positive predictive value for a dose of 12G in predicting a plasma paracetamol concentration above the Rumack-Matthew nomogram was 33.6%, with a negative predictive value of 87.8%. The sensitivity of a 12G dose was moderate (76.7%) but it had a low specificity (55.7%). 12.2% of patients presenting with a reported dose of less than 12G had a plasma paracetamol concentration above the Rumack Matthew nomogram treatment line. **Conclusions:** This study suggests that the reported ingested dose of paracetamol is not a good indicator of risk in patients presenting with paracetamol poisoning in the UK. It is therefore important that all patients presenting with early non-staggered paracetamol overdose have a plasma paracetamol concentration taken to determine risk and the need for antidotal treatment with N-acetylcysteine. This has important implications for the planning of services in areas with increasing incidence of paracetamol poisoning but poor availability of plasma paracetamol assays.