PTU-095

**COMPARISON OF NARROW BAND IMAGING WITH
HIGH RESOLUTION WHITE LIGHT ENDOSCOPY
FOR THE ASSESSMENT OF NON-STEROIDAL
ANTI-INFLAMMATORY DRUG INDUCED
GASTRODUODENAL INJURY**

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Introduction The diagnosis of NSAID induced gastroduodenal injury is often associated with difficulties in determination of the degree of injury. The Lanza score and its many modifications are commonly used in clinical trials, but are considered subjective and susceptible to errors in interpretation. The aim of this study was to determine the inter-observer variability in assessing NSAID induced gastroduodenal injury among endoscopists with and without experience in narrow band imaging (NBI) using both high resolution white light endoscopy (HR-WLE) and NBI.

Methods Corresponding NBI and HR-WLE images were taken during endoscopy from healthy volunteers taking different

NSAID preparations. Six blinded endoscopists (three experts in NBI imaging) counted the number of ulcers, erosions and haemorrhagic lesions to derive a five point modified Lanza scale and evaluated image quality on a 10 point visual analogue score (VAS). Overall agreement and κ value with bias corrected 95% CIs using bootstrapping techniques were calculated to assess interobserver reliability.

Results The inter-observer agreement (κ) with HR-WLE among all six endoscopists was 0.62 (95% CI 0.52 to 0.72), which improved significantly with NBI to 0.76 (95% CI 0.69 to 0.84, $p=0.02$).

The inter-observer agreement among expert endoscopists with HR-WLE was 'substantial' ($\kappa=0.75$, 95% CI 0.63 to 0.87) and improved with NBI to 'almost perfect agreement' ($\kappa=0.87$, 95% CI 0.78 to 0.95, $p=0.06$) which almost reached statistical significance. The inter-observer agreement among non-expert endoscopists with HR-WLE was 'moderate' ($\kappa=0.54$, 95% CI 0.42 to 0.67) and significantly improved with NBI to 'substantial' ($\kappa=0.72$, 95% CI 0.60 to 0.82, $p=0.02$). Non-expert endoscopists found significantly higher number of mucosal haemorrhages on NBI images ($p=0.03$). VAS scores for NBI images were higher than HR-WLE for experts while the opposite was true for non-experts. VAS scores for NBI images were however consistently higher than HR-WLE when the paired images were presented side by side.

Conclusion Inter-observer reliability between both expert and non-expert endoscopists for assessment of NSAID induced injury is better with NBI than HR-WLE images. NBI imaging improves the visualisation of mucosal haemorrhages especially in non-expert endoscopists.

Competing interests None.

Keywords gastroduodenal injury, inter-observer agreement, narrow band imaging, NSAIDs.