Conclusions Majority of procedures can safely be carried out as day case with associated reduced lengths of stay. The mean length of procedure under propofol was significantly shorter. Adding propofol procedures on to GA lists increased list capacity by approximately an additional 1 procedure per list. Both GA and propofol procedures are overall safe with low rates of complications and no procedure-related mortality. This safety data provides the platform to perform more complex endoscopy under propofol sedation, especially during the pandemic.

HTH-5

COULD MACHINE LEARNING (ML) IMPROVE INDICES FOR PREDICTING OUTCOME OF AUGIB?

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Introduction Risk stratification scores for acute upper gastrointestinal bleeding (AUGIB) have limitations. ML models using multiple variables have the potential to improve predictive value.

Methods Patients undergoing at least one endoscopy were selected from the 2007 UK upper gastrointestinal bleeding (UGIB) audit¹ for developing ML models predicting 28-day all-cause mortality and rebleeding. Input variables were divided into pre-endoscopy & endoscopy features (demographics, presentation, co-morbidity, concomitant drugs, biochemical parameters, pre-endoscopic management and first endoscopy findings). Random forest with 100 estimators or trees was used as a prediction model. Shapely additive explanations (SHAP)² identified the most relevant features in each model. MissForest³ imputed missing data. Outcome prediction from ML models for pre-endoscopy and combined pre-endoscopy

& endoscopy were compared to Rockall scores. 5-fold cross-validation compared performance, reported as average areas under receiver operating characteristic curve (AUC).

Results 5004 patients were included (mean age 66yr, 60% male). 28-day all-cause mortality was 6.7% (n=335) with 9.3% (n=465) rebleeding. All-cause mortality predicted by ML was independent of endoscopy (AUC 0.84, 95% CI 0.82-0.85, pre-endoscopy; 0.84, 95% CI 0.82-0.85, pre- & endoscopy) vs 0.76, 95% CI:0.75-0.77 for Rockall. Rebleeding predicted by ML was enhanced by endoscopy (AUC 0.64, 95% CI: 0.63-0.66 pre-endoscopy; AUC 0.75, 95% CI:0.75-0.77 pre- & endoscopy) vs AUC 0.67, 95% CI:0.66-0.68 for Rockall. The SHAP tool reported 10 most relevant features (Figure 1).

Conclusion Pre-endoscopy ML models performed better than Rockall scores for predicting mortality. Endoscopy appeared to enhance ML prediction of rebleeding. Comparison with other risk scores was not possible from the dataset, but ML models from electronic records could develop dynamic decision support tools.

REFERENCES

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HTH-6

PREDICTORS OF LYMPH NODE INVOLVEMENT AND METASTASIS IN CRC CASES DIAGNOSED AT ST MARK'S HOSPITAL

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Introduction Colorectal cancer (CRC) is a leading cause of morbidity and mortality in England. Both 1- and 5-year

Abstract HTH-5 Figure 1