Of those who did not fill in the MyChart questionnaire, 3 required an unscheduled admission and 1 had an unscheduled outpatient clinic review. Following introduction of MyChart questionnaire, patients were found to have significantly less unscheduled outpatient reviews (14.4% vs 21.9%), scheduled outpatient reviews (64.4% vs 75.6%) and inpatient admissions (4.8% vs 13.4%) (Figure 1).

Conclusions Three quarters of the patient population were found to be active on My Chart with the majority filling in the infliximab questionnaire. Clinical remission appears to be a factor in influencing decision to fill in the questionnaire. My Chart proved to be effective in communicating and addressing patient's concerns and prevented unwarranted outpatient appointments and inpatient admissions. There were no adverse events and patients' concerns were addressed promptly in 96% of cases.

HTH-3 STRUCTURED, STEPWISE, MULTIDISCIPLINARY TEAM APPROACH TO MANAGING BURIED BUMPER SYNDROME (BBS): IMPROVING PATIENT OUTCOMES

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Introduction BBS is a serious complication seen in up to 2.4% of long term percutaneous endoscopic gastrostomy (PEG) tubes. In BBS, a shelf of gastric mucosa gradually extends to cover the circular edge of the internal PEG flange, becoming completely buried in more advanced cases which endangers feeding tube (FT) patency. For vulnerable patients dependent on FTs for nutrition, hydration and medication, this complication may lead to harm. Various endoscopic and surgical techniques have been employed to manage this. Here we report our case series, to demonstrate how a structured multidisciplinary team (MDT) approach and advanced endoscopic management can improve patient outcomes.

Methods We present a case series of 30 patients at a regional referral centre for BBS management (2007-2020). The original service involved sporadic management by various endoscopists. Since 2013, patients with endoscopic or clinically suspected BBS have been referred to a specialist MDT clinic, with involvement from a consultant, dietitian, specialist nutrition nurse, learning disability liaison team and their carer. This facilitates a best interest approach to aid decision making, and identifies (and plans for) patient factors which could present a barrier to a successful outcome. Two dedicated interventional endoscopists perform endoscopic needle-knife extraction, combined with balloon assisted PEG manipulation (with anaesthetist-delivered sedation or general anaesthetic) in theatres. The objective was to achieve the highest chance of successful endoscopic FT replacement through the established tract at the index therapeutic procedure, reducing conversion to surgery and length of stay (LOS).

The primary aim of this case series was to compare the care that patients received before (group A) and after (group B) this service improvement initiative. Statistical analysis used Fisher's exact and unpaired t-tests.

Results Results are expressed as group B (n = 19) vs group A (n = 11). In group B, less patients required surgery to replace their FT (1 [5.3%] vs 4 [36.4%], $p < 0.05$), more FTs were replaced in the pre-existing tract (18 [94.7%] vs 2 [18.2%], p

< 0.001), mean LOS was shorter (4.2 vs 10.5 days, $p < 0.05$) and there were fewer complications (2 [10.5%] vs. 4 [36.4%], $p = 0.16$).

Overall, endoscopic vs surgical management was associated with a shorter LOS (5.3 vs 12 days, $p < 0.05$). There was no 30 day mortality or 8 day readmission in either group.

Conclusions We have outlined a management approach to BBS which is associated with better procedural success (reduced rates of surgery, reduced LOS, reduced requirement for a new gastrostomy tract). Careful, nuanced decision making utilizing MDT skills facilitated the best possible outcomes for this vulnerable group of patients.

HTH-4 SAFETY AND FEASIBILITY OF ANAESTHETIST-LED PROPOFOL SEDATION FOR ADVANCED HPB ENDOSCOPY IN A REGIONAL CENTRE

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Introduction Limited anaesthesiology resources for deep sedation within endoscopy have meant that complex and lengthy hepatopancreatobiliary (HPB) endoscopy procedures are usually done under GA. We looked at the safety and feasibility of provision of propofol sedation on established GA lists at our unit.

Methods We performed a retrospective analysis of anaesthetist-led propofol (PPF)/GA lists over 24 months since its inception at a single institution providing regional complex HPB endoscopy service. Health records for all patients were evaluated. Primary outcomes were complication rates, duration of procedure and average number of additional procedures per list. Results were compared with retrospective pre-propofol period data.

Results We identified 108 patients undergoing endoscopy during this period. Mean age was 59.6 (range 15-93). 66% procedures were performed under GA and 34% using PPF. Majority of procedures were performed as elective day cases (80.2% vs 19.8%; $P < 0.05$). Most were ERCP (56.5%) followed by EUS (25.9%) and combined ERCP+EUS (13.9%). A small number of non-HPB endoscopy procedures (3.7%) were also performed on these lists and were excluded from the final analysis. 15.4% had a previous failed HPB procedure under conscious sedation. Majority of patients were ASA 2 (61.5%) or ASA 1 (19.2%) and ERCP complexity was predominantly Cotton grade 2 (46%) or 3 (46%). The mean number of procedures increased from 1.72 on GA only lists to 2.7 in mixed GA and PPF lists ($p = 0.28$). The mean duration of procedure was 53.4 minutes (95% CI, 58.8-48) for GA compared with 39.6 minutes for PPF (95% CI, 45.4-33.8; $p < 0.005$). Average dose of PPF administered was 307 ± 36 mg. The overall mean length of stay for GA cases was 4.3 days vs 3 days for PPF ($p = 0.53$). This reduced to 1.54 days and 0.73 days respectively if the procedure was performed as a day case ($p = 0.03$). 11.5% patients suffered delayed endoscopic complications (compared with 19.4% in pre-propofol period; $p = 0.08$) whereas only 2.9% of patients had anaesthetic-related adverse events (2 had GA and 1 PPF). 7-day readmission rate was 2.9% (5.5% in pre-propofol period; $p = 0.41$) and 30-day all cause mortality was 1.9% (12.5% in PPE; $p < 0.005$).

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.

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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