algorithm is more reflective of the estimated prevalence of IBS subgroups in the general population.

Conclusions: Our study was the first attempt to develop a classification algorithm based on distinct GI symptoms experienced by patients with differing types of IBS. Further research needs to be undertaken to validate this symptom-based algorithm against objective measures.

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RELATIONSHIP BETWEEN LENGTH OF HOSPITAL STAY, PATIENT SEVERITY, TRANSFUSIONS AND ENDOSCOPY TREATMENT IN BLEEDING PEPTIC ULCER: REPORT FROM THE MULTICENTRE RING STUDY GROUP

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Purpose: The RING project has actively filed two years of hospital discharge modules (HDM) from over 50 gastroenterology units in Italy. The large amount of data collected permits to explore the clinical management of serious gastroenterologic diseases: this work focuses on bleeding peptic ulcers (BPU).

Methods: Among the 23,863 HDMs progressively collected from RING centers, 822 (3.4%) main diagnoses of BPU were reported. Age, number of concomitant diseases, number of procedures and transfusions were considered as factors revealing the patient clinical severity. RING centers were stratified according to monthly frequency of BPU cases: group A $\geq$ 4/month; group B $<$ 4/month. A multivariate ANOVA model for each strata was then used in order to assess significant association with length of hospital stay (LHS).

Results: Similar means in length of stay were found between the two centre strata group: 7.1 days (247 cases) and 7.4 days (575 cases) for group A and group B, respectively. Number of concomitant diagnoses and number of procedures resulted significantly associated with LHS in both strata groups. Group A showed an additional significant relationship with LHS, with reverse correlation, due to the presence of transfusions. In this group, patients with transfusions reported a mean value of LHS of 5.3 days, much lower than 8.4 days for the remaining patients. On the contrary, age of the patient and EGDS were found not to influence LHS.

Conclusions: RING data seem to confirm that LHS is mainly influenced by patient clinical severity, in term of number of concomitant diseases and procedures, rather than by the age of the patient. On the other side, trials-proved EGDS efficacy in reducing rebleeding incidence seems not to reflect in significant LHS shortening. Further data (HB serum level e.g.) are needed to interpret lower LHS for patient with transfusions, at least in centers with higher prevalence of BPU.

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A COST-UTILITY ANALYSIS OF SECONDARY PROPHYLAXIS FOR VARICEAL HEMORRHAGE

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Purpose: Secondary prophylaxis for esophageal variceal hemorrhage (VH) is recommended, but there has never been a cost-utility analysis of its implementation. We aimed to compare the cost-utility of various strategies for the secondary prophylaxis of VH including 1) observation alone (OBS), 2) medical therapy (MED), 3) endoscopic band ligation (EBL), 4) endoscopic band ligation plus medical therapy (EBL+M), and 5) transjugular intrahepatic portosystemic shunt (TIPS), and to examine the effect of adherence on these strategies.

Design: A Markov process model was developed for all five strategies, and includes surveillance, risk of hepatic encephalopathy, complications, and non-adherence. Data sources: Published literature and the Health Care Financing Administration. Target population: People with cirrhosis and a

history of controlled VH. Time horizon: Three years. Perspective: Third party payer. Outcome measure: Incremental cost-effectiveness ratios for quality-adjusted-life years (QALYs) gained.

Results: Base-case analysis: Combination EBL+M was the optimal strategy, dominating all other strategies including OBS, meaning that it was more effective and less expensive than the others. In addition, EBL alone dominated OBS and TIPS in terms of QALYs, and MED alone dominated the strategy of OBS in terms of QALYs. Sensitivity analysis: Important variables affecting the optimal strategy were the odds ratio of VH with EBL compared to MED, the odds ratio of VH with EBL+M compared to EBL, and patients' preferences regarding taking the medication as reflected in the associated toll exacted on the health state utility. Variations in these parameters within the range of clinical plausibility allowed EBL or MED to become the optimal strategy. TIPS was the optimal strategy only if adherence rates for all strategies were less than 12%. Monte Carlo analysis: Neither OBS nor TIPS was ever the optimal strategy, and EBL+M was optimal in 61% of cases. If the variables identified in the sensitivity analysis were controlled, then EBL+M was optimal in 95% of cases.

Conclusions: TIPS should be reserved only for patients with very poor adherence. Otherwise, patients are best served by medications, endoscopic band ligation, or a combination of both, depending on the comparative rates of rebleeding with each, and patients' preferences regarding medical therapy. The redundancy of combination band ligation plus medical therapy can improve outcomes, particularly in the setting of poor patient adherence.

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ARE MEDICATIONS THAT AFFECT PLATELET FUNCTION ASSOCIATED WITH BLEEDING FOLLOWING THERAPEUTIC ENDOSCOPY? A CASE-CONTROL STUDY

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Purpose: To determine whether the intake of anti-platelet agents is associated with a significant risk of post-procedural hemorrhage. Few data exist on the relative safety of performing therapeutic endoscopy in patients on anti-platelet agents.

Methods: A case-control study was performed where cases unequivocally bled (ascertained using previously published criteria) as a result of an endoscopic polypectomy (P) of the upper or lower gastrointestinal tract, an endoscopic sphincterotomy (ES), or a percutaneous endoscopic gastrostomy (PEG) occurring in a tertiary care centre with experienced endoscopists. Two or 3 controls (patients in whom no bleeding occurred) were selected randomly for each case by consulting an administrative institutional database. Matching was done by sex, age $\pm$ 10 years, time of procedure $\pm$ 2 years, and procedure-type in patients with available clinical data. Conditional logistic regression modeling was used to assess the association between exposure to anti-platelet medication (within the prior 10 days) and post-procedural bleeding while adjusting for possible confounders. The study was powered to confidently rule out a clinically significant association.

Results: Amongst the 42 cases, 48% bled during the procedure, while 40% bled in the first 14 days thereafter, and 12% bled later yet. 48% required blood transfusions (mean: 3.4 units). The 54 controls and 42 cases were well matched for age (68.4 ± 16 vs 68.6 ± 17 yrs), sex (53% vs 52% female), PTT (normal values in 90% vs 81%), and platelet count (over $60,000\times10^9$/L in 99% vs 100%). Differences were noted, amongst the ES group, in the prevalence of pre-procedural cholangitis (20% vs 45%), and an abnormal INR (over 1.5 in 1% vs 12%). Overall, 20% of controls and 21% of cases had been exposed to an anti-platelet agent. After adjusting for possible effects attributable to an elevated PTT, INR and the presence of cholangitis (for the ES patients), exposure to an anti-platelet agent in all patients was not associated with post-procedural bleeding (risk ratio = 1.13, 95% CI: 0.44-2.88).

Conclusions: This case-control trial provides one of very few available controlled data to support the belief that exposure to anti-platelet agents