

**IDDF2020-ABS-0075** **OPTIMIZING THE USE OF GASTROSCOPE FOR ICU PATIENTS BASED ON MACHINE LEARNING MODEL**

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**Background** We aim to establish an objective and feasible pre-gastroscopic screening standard to solve the overuse of gastroscopy for ICU patients.

**Methods** This study collected the demographic information, diet, lifestyle, medical history, symptoms, PGI, PGII, G-17 and Hp antibody of the patients from the MIMIC-III and Philips eICU collaboration databases. The decision tree model, logistic regression model, random forest model and support vector machine model were trained by the collected information. The accuracy and validity of the machine learning models predicting positive gastroscopic results were evaluated by comparing the efficiencies of different pre-gastroscopic screening ways.

**Results** 1273 gastroscopic positive cases of a total of 720 cases were enrolled in this study. In the training set, support vector machine model fitted the highest degree (AUC=1.000), the random forest model (AUC=0.941), the decision tree model (AUC is 0.885), and the worst is the Logistic regression model (AUC=0.839). In the test set, four machine learning model has better prediction effect, AUC from high to low were random forest model (0.879), logistic regression model (0.842), the decision tree model (0.827) and support vector machine model (0.826). Assuming risk cut-off value was 0.85, the sensitivity of the model is 93.17%, as well as specificity is 15.70%, and only recommended gastroscopy in 89% of patients, the average 2.27 times gastroscopy can be found that the positive cases. Compared with direct gastroscopy, the efficiency of gastroscopy is increased by 3.57 times after using the screening model.

**Conclusions** This study compared the variables in the model with single-factor analysis results, and proved that the history of upper gastrointestinal polyps, PG II, PG I, Hp antibody, smoking, drinking were important predicting variables for positive gastroscopic results, as well as the single alarm symptom is difficult to predict the results of gastroscopy accurately. The model can predict positive gastroscopic risk effectively and provide objective criteria for optimizing the use of gastroscopy, which may be a new way to decrease the overuse of gastroscopy for ICU patients. However, before being applied in clinical practice, the models need externally validated.

**IDDF2020-ABS-0076** **DIAGNOSTIC VALUE OF DOUBLE-BALLOON ENTEROSCOPY, CT ENTEROGRAPHY AND THEIR COMBINATION FOR SMALL BOWEL CROHN DISEASE**

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**Background** To investigate the value of double-balloon endoscopy(DBE), CT enterography (CTE) and their combination for the diagnosis of small bowel Crohn disease(CD).

**Methods** Data of 35 patients admitted from January 2018 to December 2019 who were clinically suspected of small bowel CD undergoing double-balloon endoscopy(DBE) were

reviewed. 30 patients underwent CT enterography (CTE). Diagnosis was made based on pathological, endoscopic findings, CT enterography findings and clinic follow-up results. Detection rates and diagnosis rates of small bowel CD were compared by double-balloon enteroscopy(DBE) and CT enterography(CTE).

**Results** The detection and diagnosis rates of small bowel CD by double-balloon endoscopy (DBE) were 97.1%(34/35) and 91.2%(31/34), respectively. These two variables by CT enterography(CTE) were 86.7%(26/30) and 88.5%(23/26). Both double balloon endoscopy (DBE) and CT enterography (CTE) detected small intestinal CD in 25 cases, with a detection rate of 83.3% (25/30) and a diagnosis rate of 92%(23/25). The detection rate and diagnosis rate of double balloon endoscopy (DBE) were higher than that of CT enterography (CTE). Double balloon endoscopy(DBE) combined with CT enterography(CTE) has the highest rate of diagnosis.

**Conclusions** Double balloon endoscopy(DBE) has high application value for the diagnosis of small bowel CD, and can be recommended as the first choice for the diagnosis of small bowel CD. For those contraindicated with endoscopy, CT enterography(CTE) can be considered as a preferred auxiliary diagnostic modality. The combination of the two methods can complement each other and provide more information for the diagnosis of small bowel CD, thus improving the diagnosis rate of small intestinal CD.

**IDDF2020-ABS-0077** **TREATMENT PATTERNS SHOULD BE CAREFULLY CHOSEN IN DIFFERENT PRIMARY SITES OF GI-NECS**

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**Background** Neuroendocrine carcinomas (NECs) are heterogeneous and aggressive in gastrointestinal tract (GI). However, treatment patterns and related outcomes in the different primary site have not been well described.

**Methods** The SEER data was selected from 2010 to 2016, and 5-year survival was set as the end-point. Coarsened exact matching (CEM) was performed to adjust before further regression models. Patients were separated by treatment groups and then comparing survivals for treatment patterns used multivariate analysis in different primary sites. Patients with non-chemotherapy and non-surgery were considered as the reference group.

**Results** 4114 patients with GI-NECs including stomach (12.96%), small intestinal (37.50%), colon (24.45%) and rectum (25.09%) were identified. In the stomach, chemotherapy without surgery will increase the risk of death in non-metastatic NEC patients (HR=3.11, 95%CI 1.26–7.76; P=0.014). Chemotherapy combining with primary resection will benefit metastatic patients (HR=0.15, 95%CI 1.26–7.76; P=0.017). In small intestinal, single primary resection will benefit both non-metastatic (HR=0.67, 95%CI 0.45–0.98; P=0.042) and metastatic (HR=0.61, 95%CI 0.41–0.92; P=0.018) patients younger than 60-year-old. In the colon, primary site resection combines with chemotherapy will benefit the metastatic patient