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Research

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Impact of Endoscopic Surveillance on Detection of Dysplasia Progression in Patients with Barrett's Esophagus who have Undergone Complete Eradication of Intestinal Metaplasia

Purpose of Study

Barrett's esophagus (BE) affects up to 15% of patients with gastroesophageal reflux disease and poses high risk of progression to esophageal adenocarcinoma (EAC). While radiofrequency ablation (RFA) and endoscopic mucosal resection (EMR) are effective treatments for dysplastic BE, risk of recurrence remains even after complete eradication of intestinal metaplasia (CEIM). Currently, endoscopic surveillance intervals after RFA±EMR are informed only by expert opinion and weak evidence. It is unclear if current guidelines are cost-effective or suitable for all patients. The purpose of this study is to assess for variation in surveillance intervals and rates of recurrence in BE patients with high grade dysplasia (HGD).

Methods

A retrospective review of medical records was performed for 70 BE patients who underwent RFA±EMR for biopsy-proven HGD between January 1, 2010 until November 30, 2018 and received at least 1 surveillance endoscopy with biopsies at 1 year after completion of treatment. These patients were analyzed for adherence to the ACG guidelines of an endoscopy every 3 months for the first year after treatment and for recurrence of dysplasia or development of EAC.

Results

At 1 year post treatment completion, CEIM was achieved in 48.6% of patients and non-dysplastic BE was achieved in 32.9% of patients. The average time between the first 4 surveillance intervals was 5.5 months. 14 of 70 patients were adherent to ACG guidelines, and 56 received endoscopies less frequently than recommended. Of the 14 patients who were adherent, 6 developed recurrent dysplasia (1 low grade dysplasia (LGD), 4 HGD) and 1 developed T1b carcinoma at one year. Of the 56 patients who received surveillance endoscopies less frequently than recommended, 7 developed recurrent dysplasia (4 LGD, 3 HGD) at one year.

Conclusions

Adhering to ACG surveillance guidelines following RFA±EMR treatment for HGD is difficult and requires close attention to the scheduling of these BE patients. Although our sample size is small, our study showed that the recurrence of dysplasia was not significantly reduced in individuals that were adherent to the ACG guidelines when compared to those that received surveillance less frequently than recommended. Further studies are needed to inform the development of evidence-based guidelines that identify recurrence or progression of dysplastic BE early, while minimizing the costs of over-surveillance.

Mediastinal Pancreatic Pseudocyst with Expansion into Bilateral Pleural Spaces

Introduction

Pseudocysts are a common complication of both acute and particularly chronic pancreatitis. Uncommonly, pseudocysts may communicate with thoracic cavities, including the mediastinum. We describe a case of acute pancreatitis complicated by a mediastinal pseudocyst with bilateral pleural space involvement.

Case Description

A 51 year old male with a history of alcohol abuse presented shortly after discharge from a prolonged hospitalization for his first lifetime episode of acute alcohol-induced pancreatitis. A CT of the chest ordered on admission for new onset respiratory distress demonstrated bilateral pleural effusions. Fluid analysis showed a right sided empyema and left sided aseptic exudative effusion. The right empyema resolved after chest tube placement, but there was rapid recrudescence of a right pleural effusion after chest tube removal. Repeat fluid analysis was significant for a pancreatic specific amylase level of 2620. Repeat CT imaging demonstrated a posterior mediastinal fluid collection that arose from the pancreas, extended through the esophageal hiatus and was contiguous with new fluid collections in both pleural spaces and this was confirmed with MRCP. The mediastinal pseudocyst was deemed not amenable to endoscopic drainage so ERCP was performed with stent placement to the ventral pancreatic duct along with chest tube placement for the larger right sided fluid collection and subcutaneous octreotide administration, with eventual reduction of pseudocyst size.

Discussion

Mediastinal pseudocysts are a rare complication of acute pancreatitis more commonly seen in chronic pancreatitis, though exceedingly rare in general. It is theorized that mediastinal pseudocysts occur based on ease of pancreatic fluid movement. The pararenal and pelvic extraperitoneal spaces are typically the easiest spaces for this fluid to penetrate but conditions that create inflammatory fibrosis of these areas may make ascending flow into the mediastinum the path of least resistance. On CT scan and on MRCP, our patient had a mediastinal pseudocyst that communicated directly and inseparably with both the right and left pleural space. To our knowledge, this has not been previously seen in the limited case reports of mediastinal pseudocysts. Despite not being amenable to endoscopic drainage based on location, the use of octreotide coupled with pancreatic duct stenting proved effective in reducing the caliber of this mediastinal pseudocyst on interval imaging.

Thromboelastography may offer better guidance for correcting hemostasis abnormalities in hospitalized patients with cirrhosis

Purpose

Patients with cirrhosis have abnormalities in hemostasis owing to imbalances in pro- and anti-coagulant activity, thrombocytopenia, and portal hypertension. In this population, standard measures of coagulation are limited, as they do not correlate well with clinical outcomes. Thromboelastography (TEG) offers a global measure of hemostasis, but its value in cirrhosis has not been fully explored. We aimed to study the characteristics of TEG and its correlation with standard parameters of hemostasis in patients with cirrhosis

Method

We performed a cohort study of hospitalized patients with cirrhosis who underwent TEG at Indiana University Hospital between 11/2015 and 10/2018. TEG provides 5 parameters that indicate clot formation and stability: R-value indicates the time to initial clot formation, K-value and α -angle indicate the speed of clot formation, maximum amplitude (MA) indicates the maximal clot strength, and LY30 indicates the percentage of clot lysis after 30 minutes. We examined clinical characteristics, including standard measures of hemostasis, and outcomes. We defined a normal TEG as all TEG measures within the reference range (R-value < 7min; α -angle $\geq 45^\circ$; and MA ≥ 50 mm); standard hemostasis measures were considered abnormal when INR ≥ 2 or when platelets < $50 \times 10^3 / \text{mm}^3$.

Results

359 patients with cirrhosis underwent TEG during the study period. The average R-value, K-value, α -angle, and MA were 5.4 ± 3.4 , 2.7 ± 2.4 , 62 ± 13 , and 48 ± 13 , respectively. Only 3% had prolonged LY30, indicative of hyperfibrinolysis. Correlation between TEG values and corresponding standard hemostatic measures was moderate, with absolute coefficients ranging from 0.35 to 0.62 (Table 1). Abnormal TEG was seen in 62% and was associated with liver disease severity (Table 2). Standard hemostasis measures were abnormal in 64% and were associated with TEG, but agreement between standard measures and TEG was only fair (Kappa 0.31). Of those with INR ≥ 2 , R-value was normal in 82% (suggesting a lack of need for plasma transfusion); only 9% of those with INR < 2 had a prolonged R-value. For those with a platelet count ≥ 50 , a low MA was seen in 48% (suggesting a need for platelet transfusion); 19% of those with platelets < 50 had a normal MA. There was a trend toward increased inpatient mortality in those with abnormal TEG (39% vs. 30%; $p = 0.08$).

Conclusion

In hospitalized patients with cirrhosis, TEG is associated with liver disease severity and with standard measures of hemostasis, but correlation between TEG parameters and standard measures is only moderate. Use of TEG instead of standard measures of hemostasis to guide blood products may shift utilization from plasma (which corrects INR/R-value) toward platelet transfusion (which corrects platelet count/MA).

Don't stop at the Colon! - A rare case of Strongyloides Hyperinfection diagnosed on Esophagogastroduodenoscopy

Introduction

Strongyloides stercoralis (SS) endemic to the tropics, is uncommon in the US. Symptoms from SS infection can mimic Irritable Bowel Syndrome (IBS). Immunocompromised individuals may present with fatal systemic 'hyperinfections' where SS larvae enter the bloodstream and bring enteric bacteria with it. Current literature recommends the use of endoscopy with biopsy to confirm diagnosis and begin prompt treatment to prevent further complications.

Case report

A 46 year old woman with Rheumatoid Arthritis treated with steroids and Rituximab presented for chronic abdominal pain reportedly from IBS. Past medical history was significant for recurrent hospital admissions for gram negative meningitis attributed to her immunocompromised state. She was treated with Ceftriaxone empirically each time. As part of her IBS workup, she underwent out-patient diagnostic Esophagogastroduodenoscopy (EGD) and Colonoscopy. The Colonoscopy was unremarkable. The EGD showed diffuse white villi in the second part of the duodenum. Biopsy revealed inflammation with presence of many SS larvae and eosinophils. A unifying diagnosis of SS hyperinfection causing recurrent gram negative bacterial meningitis was thus made. The patient was treated with Ivermectin and Albendazole. Surveillance EGD and Colonoscopy with random biopsies showed absence of SS. She reported complete resolution of her symptoms.

Discussion

'Auto-infected' SS larvae in the duodenum can transform into adult worms which reside in the colon and are known to mimic IBS. In immunocompromised hosts larvae can also enter bloodstream by transmural migration of the duodenum causing hyperinfection. Literature from regions endemic to SS suggest that enteric bacteria may accompany the larvae during this migration causing gram-negative septicemia and meningitis. Diagnosing SS can be challenging. Stool studies have poor diagnostic sensitivity. Endoscopy with biopsy confirming presence of SS larvae as seen in our patient continues to give the highest yield for diagnosis and prompt treatment to prevent fatal outcomes. A variety of endoscopic findings including duodenal white villi are documented but no pathognomonic finding is established for which more cases need to be reported. While a large burden of the adult worms reside in the colon causing IBS like symptoms, SS larvae reside in the crypts of duodenal mucosa. If SS hyperinfection is suspected, we strongly recommend to not stop the investigation at a diagnostic Colonoscopy but also perform an EGD.

Can High Adenoma Detection Rates predict a benchmark for Serrated Polyp and Advanced Adenoma Detection Rates in a Diverse Urban Population?

Introduction

Adenoma detection rate (ADR) benchmark of >25% has been shown to reduce interval colorectal cancer (CRC). Serrated polyp detection rate (SDR) and advanced adenoma detection rate (AADR) can also serve as additional benchmarks to reduce interval CRC, although a standardized benchmark for AADR and SDR doesn't exist. Recent studies have shown correlation between ADR, SDR and AADR, but in a homogenous patient population. Our study evaluated the correlation between ADR, SDR and AADR and approximated a benchmark for SDR and AADR in a diverse urban population, while attempting to identify any patient variables affecting detection rates.

Methods

We reviewed screening colonoscopies performed at our midwest urban, safety-net health care system over a period of one year (2017). We calculated ADR, SDR and AADR for individual providers and established correlation using non-parametric Spearman correlation coefficients between the 3 entities. Logistic regression analysis was used to calculate predictors of adenomas, advanced adenomas and serrated polyps.

Results

Of the 3000 colonoscopies reviewed, 1488 were screening colonoscopies performed by 9 experienced staff gastroenterologists. The patient population included 48% African-Americans, 42% Caucasians, and 10% others. Median (Interquartile range) ADR of all providers was 42.5 (27-61), SDR 8.4 (3.6-23), and AADR was 2.9 (0.6-4.8). All providers had an overall ADR above 25%. There was a weak positive correlation for ADR and SDR ($\rho=0.13$), and ADR and AADR ($\rho=0.13$). Logistic regression analysis identified male gender ($p<0.01$) and body mass index ($p=0.02$) as predictors of adenomas, while longer withdrawal time was a significant predictor for all types of polyps. We did not find statistical significance for gender or body mass index and SDR.

Discussion

Based on our study, previously suggested benchmark SDR of 7% seems appropriate. Our AADR of 2.9 was lower than suggested AADR of >6%. Additionally, a weak positive correlation was noted between ADR and SDR, and ADR with AADR although the patient population was heterogeneous and diverse making the results more generalizable for the real world.

Adenosquamous Carcinoma of the Ileum: A Rare Entity Found Incidentally

Introduction

Primary small bowel malignancy accounts for 0.6% of all new cancer cases in the U.S. and 1-3% of GI tract neoplasms¹. The common subtypes include carcinoid (44%), adenocarcinoma (33%), lymphoma, (15%) and sarcoma (8%)². Adenosquamous carcinoma is even more rare with only a few cases reported in the literature³⁻⁶. It has both glandular and squamous histologic components and has the potential to metastasize⁷. The infrequency with which this malignancy is diagnosed and its late and nonspecific clinical presentation contribute to delayed diagnosis and consequently worse prognosis.

Case

A 58-year-old African American male presented for a surveillance colonoscopy. His initial screening colonoscopy at 53 years of age found 6 polyps with one tubular adenoma 1 cm in size.

He was asymptomatic: he denied any abdominal pain, weight loss, fevers, nausea, vomiting, diarrhea, melena, hematochezia or changes in his bowel habits. During the colonoscopy, the fellow intubated the terminal ileum for practice and incidentally found a 4 cm mass with central clean based ulceration. Multiple biopsies were obtained. The colon was unremarkable but two hyperplastic polyps were also removed from the rectum.

The ileal mass biopsy showed atypical epithelium, thus surgery was consulted. Abdominal computed tomography (CT) scan showed no other lesions. Ileocectomy was performed and further pathology showed poorly differentiated, high grade adenocarcinoma with areas of squamous differentiation, arising from a villous adenoma and extending into the muscularis propria (pT2). No lymph node involvement was seen.

Discussion

Adenosquamous Carcinoma of the ileum is an extremely rare diagnosis. Due to the rarity of disease, no specific pattern of patient presentation or predictors of clinical outcomes have been determined. In this case, incidental finding of a mass by terminal intubation of the ileum during training found a Stage I malignancy without any clinical symptoms. Surgical resection was likely curative for this fortunate patient. This raises the question if there is the utility in measuring terminal intubation rates as a potential quality indicator for quality amongst colonoscopists in the future.

Predicting Negative Outcomes in Patients Hospitalized for Acute Hepatitis A

Introduction

The Centers for Disease Control has declared multiple outbreaks of hepatitis A in the past 5 years resulting in an increased number of hospitalizations and death. We aim to evaluate hepatitis A admissions in order to determine factors associated with higher cost, increased mortality, and longer length of stay.

Methods

Utilizing the Nationwide Inpatient Sample, a retrospective database analysis was performed between 2002 and 2013 including adult patients hospitalized with hepatitis A. Trends in patient and hospital characteristics were evaluated and tested statistically. Multivariable analysis was performed to determine factors associated with higher cost, inpatient mortality, and longer length of stay.

Results

Between 2002 and 2013, 13,514 patients were admitted with hepatitis A. The number of admissions related to hepatitis A decreased significantly during studied time period ($p<0.001$). Significant increasing trends in the percentage of Hepatitis A admissions were noted for patients over 60, females, Medicare insurance, three or greater Elixhauser comorbidities and patients with cirrhosis. On multivariable analysis, factors associated with high total hospital costs included age over 60 ($p<0.001$), Hispanic patients ($p=0.003$), Medicare and Medicaid ($p<0.001$ and $p=0.02$ respectively), urban nonteaching and teaching hospitals ($p=0.02$, 0.002 respectively), and cirrhosis ($p<0.001$). Higher rates of inpatient mortality were associated with patients that were over the age of 40 ($p=.01$), Medicare insurance ($p=0.02$), admission to urban teaching hospital ($p=0.03$) and patients with cirrhosis ($p=0.03$). Longer hospital length of stay was associated with age greater than 40 ($p<0.001$), Medicare and Medicaid ($p=0.001$), Midwest or Northeast hospitals ($p<0.001$) and cirrhosis ($p<0.001$).

Conclusions

It is crucial to recognize factors associated with worse outcomes in patients admitted with hepatitis A to improve patient and hospital outcomes.

Cumulative Increase in the Prevalence of Esophageal Cancer in Patients With Gastroesophageal Reflux Disease (GERD) and Multiple Risk Factors

Purpose of the study

The 2015 ACG clinical guidelines on Barrett's esophagus (BE) recommend endoscopic screening for men with chronic and/or frequent GERD and two or more risk factors for BE or esophageal adenocarcinoma (EAC). However, the additive effect of these risk factors is not known. Our objective was to determine both the individual and combined effect of multiple risk factors on the prevalence of BE associated neoplasia.

Methods

Data were obtained from a commercial de-identified patient database (Explorys, IBM, Inc.) that integrates electronic health records from 26 major U.S. hospital systems from 1999 to May 2019. We identified adult patients (≥ 18 years) with chronic GERD for ≥ 5 years (having a GERD diagnosis from May 2014 to May 2019) using Systematized Nomenclature of Medicine - Clinical Terms (SNOMED-CT). Controls were defined as any patient in the Explorys database with chronic GERD, whereas cases were defined as those with chronic GERD and one or more additional BE/EAC associated risk factors per ACG guidelines such as male sex, smoking, age > 50 years, and Caucasian race. Odds ratios (OR) and confidence intervals (CI) for the ORs were calculated for the risk of association of each individual risk factor and with multiple risk factors combined.

Results Summary

A total of 4,424,810 patients had GERD for ≥ 5 years. When compared to GERD controls, cases with GERD and obesity (BMI > 30) had a 1.4 (95% CI 1.24 – 1.55) times higher odds of a primary neoplasm of the lower esophagus. Addition of each individual risk factor as described in Table 1 shows the incremental effect of these risk factors on development of primary neoplasm of the lower esophagus. With any three out of four risk factors (chronic GERD and age > 50 + any three out of four associated risk factors), the odds of having a primary neoplasm of the lower esophagus increased to 6.26 (5.77 – 6.79) when compared to GERD controls.

Conclusion

The incremental and strong association of multiple risk factors with primary neoplasm of the lower esophagus suggests a role for screening endoscopies when clinicians encounter GERD patients with multiple associated risk factors. Although this was a retrospective analysis that relied on diagnosis coding, and despite other limitations of Explorys such as lack of histology reports, and unavailability of family history of BE/EAC, our study further validates the utility of the 2015 ACG Barrett's guidelines in everyday clinical practice.

Performance of lab-based scoring tests for the assessment of hepatic fibrosis compared to the liver biopsy among patients with non-alcoholic fatty liver disease

Purpose of Study

The prevalence of non-alcoholic fatty liver disease (NAFLD) is increasing worldwide. Hepatic fibrosis is the most important predictor for its prognosis. Various lab-based scoring tests have been developed as non-invasive measures to assess for hepatic fibrosis. The aim of this study was to examine the performance of these tests compared to the liver biopsy.

Methods

This is a retrospective study that included 354 biopsy-proven NAFLD patients. The sensitivity, specificity, positive predictive value, negative predictive value and area under the receiver operating characteristic (AUROC) curve of aspartate aminotransferase to platelet ratio (APRI), Fibrosis-4 (FIB-4), and NAFLD fibrosis score (NFS) were compared to histological fibrosis between groups without (F0-2) and with advanced hepatic fibrosis (F3-4).

Results

The mean age of our study population was 50 ± 13 years. The mean BMI was 33.92 ± 8.51 kg/m². The majority were whites (87.29%) and females (57.63%). The overall mean prevalence of F0-2 fibrosis and F3-4 were 73.7% and 26.3%, respectively. Patients with NFS ≤ 0.675 were less likely to have advanced hepatic fibrosis ($P=0.011$) compared to those who had NFS >0.675 . With NFS ≤ 0.675 and >0.675 , the sensitivity and specificity for advanced hepatic fibrosis were 37.6% and 76.2%, and the AUROC was 0.56. The sensitivities and specificities of NFS, APRI and FIB-4 for detecting advanced histological fibrosis are shown in the table.

Conclusion

This is the largest study comparing various lab-based scoring tests with the liver biopsy. The performance of lab-based scoring tests is overall not satisfactory. Therefore, new tests or a combination of these tests with other modality such as elastography is warranted to reliably assess the stages of hepatic fibrosis.

Disseminated Anorectal Mucosal Melanoma Diagnosed With Endoscopy

Introduction

Less than 4% of melanomas are of mucosal origin with primary anorectal mucosal melanomas comprising a small subset. Mucosal melanomas are often diagnosed late due to delay in patient presentation and obscured tumor origins noting a more aggressive behavior and less favorable prognosis when compared to cutaneous melanomas. We present a case of metastatic anorectal mucosal melanoma with a negative colonoscopy 1-year prior.

Case Description

A 68 year-old female presented to the hospital with a history of several months of intermittent fecal impaction complicated by sporadic outlet type rectal bleeding and a negative colonoscopy 1-year prior. She endorsed progressive anorexia and a 20 lb. weight loss over the last few months. She was hemodynamically stable with normal hemoglobin level. CT imaging depicted multiple lesions in the liver and lungs concerning for metastatic disease. A colonoscopy was repeated and revealed a rigid mass on rectal exam and granular nodularity with ulceration in the rectum at the dentate line on retroflexion (Figure 1). Excisional biopsy confirmed mucosal melanoma. Same session endoscopic ultrasound showed several lesions in the left lobe of the liver with FNA demonstrating malignant melanoma (Figure 2, 3). MRI revealed primary tumor involvement of the anal canal and rectum in addition to metastases to the liver, lungs, and lymph nodes. The patient was diagnosed with T4N1M1, stage IV anorectal mucosal melanoma (BRAF/C-KIT negative) and was recommended to undergo ipilimumab and nivolumab (I3/N1) immunotherapy with palliative radiation.

Conclusion

Anorectal mucosal melanomas occur infrequently, but at the time of diagnosis, are more likely to be metastatic with poor prognoses. Rectal bleeding is the most common symptom, and diagnosis is often seen in fifth to seventh decade of life. This case is a prime example of not only the aggressive nature of anorectal mucosal melanoma presenting with disseminated disease despite normal colonoscopy 1-year prior but also of the significance of the rectal exam and retroflexion maneuver during colonoscopy.

Outcomes of Cholecystostomy With and Without Follow-Up Cholecystectomy in Patients with Cirrhosis

Purpose of the Study

Cholecystectomy (CCY) in cirrhotic patients with acute calculous cholecystitis (ACC) has been reported to be associated with higher mortality. Percutaneous cholecystostomy tube (PCT) placement in cirrhotics is an alternative or a bridge to CCY. We studied the hospital outcomes and predictors of PCT and subsequent CCY in cirrhotics.

Materials

The National Readmissions Database (NRD) was queried to study the patients with primary diagnosis of ACC between 2010-2014 who underwent PCT with or without follow-up CCY. Study groups included non-cirrhotics (NC), compensated cirrhotics (CC) and decompensated cirrhotics (DC). We compared the outcomes including early readmission, length of stay, cost and mortality in cirrhotics with initial CCY and PCT. Predictors and outcomes of patients undergoing PCT with or without subsequent CCY were also reported. Univariate and multivariate regression analyses were performed to study the predictors of PCT and failure to undergo subsequent CCY.

Results Summary

Out of 919,190 patients who had index admission with ACC, 13,284 (1.45%) had cirrhosis (CC=11,093 and DC=2191). Among cirrhotics CCY was performed in 12,842 (96.3%) and PCT in remaining 493 (3.7%). PCTs were more commonly placed in cirrhotics (3.7%) compared to non-cirrhotics (1.4%). Within cirrhotics, DC (7.7%) received more PCT than CC (2.9%). PCT was followed by CCY less often in cirrhotics than NC with DC having the lowest rates (NC: 39.9%, CC: 28.6%, and DC: 16.1%). Predictors of PCT were DC (OR: 2.25; CI:1.67), but not CC (OR:1.15; CI:0.92-1.43). Moreover, presence of CC (OR: 0.57; CI: 0.35-0.92), DC (OR: 0.29; CI: 0.14-0.60), older age (45-64 and 65+ years), increased Elixhauser comorbidity (>3), hemodialysis (OR: 0.40; CI: 0.23-0.72) and diastolic heart failure (OR: 0.65; CI: 0.46-0.90) were predictors of not receiving CCY after PCT.

Conclusion

In this national study patients with cirrhosis had an increased rate of PCT placement and lesser subsequent CCY (DC>CC) for ACC. Presence of DC is an independent predictor of getting PTC. However, chances of getting subsequent CCY are reduced by the presence of CC and DC. Focus should be on use of PCT initially for ACC and early CCY after PCT placement.

Impact of Hypertriglyceridemia on Organ Failure During Acute Pancreatitis

Background & Aim

Hypertriglyceridemia (HTG) may impact acute pancreatitis (AP) outcomes. This study investigates the effect of different serum triglycerides (TG) thresholds on the development of persistent or multiple organ failures in patients with AP.

Methods

Cohort study of a prospectively maintained database of patients admitted with AP at a tertiary center in the last 15 years. We strictly included patients who met AP diagnosis by Revised Atlanta Classification. Severity of HTG was determined by the American Endocrine Society guidelines. Control group: AP (including all common etiologies, except HTG-induced AP). Study groups included other common HTG scenarios: 1) HTG-AP (i.e. HTG-induced AP), 2) HTG-AP + DKA (i.e. Triad), and 3) AP + diabetes ketoacidosis (AP-DKA). We assessed the levels of TG and its impact on organ failure. Multivariable logistic regression models were constructed using STATA software version 9.4

Results

2,654 patients were reviewed, of whom 124 patients had the triad (HTG-AP, DKA), 100 had HTG-AP only (triglyceride levels >1,000 mg/dL), 67 had AP +DKA and we included 101 with AP-only as control for the analysis. Overall, any level of hypertriglyceridemia in all of the three study groups (HTG related syndromes) had higher odds for developing organ failure when compared to the control group (table 1). All study groups had higher odds to develop ARDS, AKI, ileus, and shock. The highest odds ratios for organ failures were: HTG-AP patients with moderate levels of HTG were almost 25 times more likely to develop ARDS. AP-DKA patients with moderate levels of HTG were 32 times more likely to develop AKI. HTG-AP patients with severe HTG levels were 16 times more likely to develop ileus. HTG-AP patients with moderate HTG levels were 7 times more likely to develop shock. Interestingly, all study groups had lower odds to develop SIRS, persistent SIRS at 24 or 48 hrs., and myocardial infarction (MI) (table 1).

Conclusion

Increased TG levels were associated with the development of multiple organ failure among AP patients, particularly in the settings of HTG-induced AP, the Triad of HTG-AP-DKA, and AP-DKA. Interestingly, HTG did not correlate with SIRS (transient or persistent), which one could have expected. It seems that the severe organ failure is driven by direct lipotoxicity from HTG rather than pancreatitis-inflammation (i.e. SIRS).

Predictors of Adenoma Detection Rate of Positive FIT vs Screening Colonoscopy in an Urban Safety Net Hospital

Purpose of the study

Fecal immunochemistry test (FIT) and colonoscopy are the first-tier colorectal cancer (CRC) screening tests recommended for average risk adults aged 50 years and above in the United States. To compare the predictors of adenoma detection rate (ADR) of positive FIT with screening colonoscopy (SC).

Methods

Individuals ≥ 50 years, at average risk of CRC who underwent quantitative FIT or SC as part of their routine CRC screening between 09/01/2017 and 08/30/2018 were reviewed. The quality of bowel preparation was assessed by Aronchick scale and fair/ good/excellent was considered adequate. The colonoscopy findings of the individuals following a positive FIT (FITC) were compared to those who underwent SC. Advanced adenoma was defined as polyp ≥ 10 mm in size, with villous histology or high - grade dysplasia. Lesions were categorized into proximal – cecum to splenic flexure and distal – descending colon to rectum. Demographic variables, ADR, AADR, mean size of the largest polyp, adenoma per colonoscopy (APC) were compared between the two groups using multivariable logistic regression analysis, univariate chi-square test and student's T test. $p < 0.05$ was determined statistically significant.

Results

14,638 average risk individuals had a FIT order, 54.5 % completed FIT, out of which 7.5% had a positive FIT. Among those with positive FIT, 351 individuals were identified in FITC group (follow up rate 60.16%). During the study period, 1841 average risk individuals underwent SC. ADR was 66% in FITC and 34% in SC (odds ratio OR 3.78, CI 2.97-4.82, $p < 0.0001$). AADR was 40.46% in FITC and 10.10% in SC (OR 6.05, CI 4.65 - 7.85), $p < 0.0001$). The mean size of the largest polyp for FITC was significantly higher than SC (FITC 12.6 ± 1.21 mm, SC 8.27 ± 0.57 mm, $p < 0.0001$) for proximal (FITC 10.03 ± 1.11 , SC 7.37 ± 0.58 , $p < 0.0001$) as well as distal lesions (FITC 12.10 ± 1.49 , SC 8.89 ± 0.92 , $p = 0.0002$). APC was also significantly higher in FITC (3.31 ± 0.50) compared to SC (1.90 ± 0.13), $p < 0.0001$. Individuals who had a true positive FIT (adenoma detected) were more likely men, were obese and had a history of smoking whereas individuals who had a positive SC (adenoma detected) were more likely to have a history of smoking, diabetes mellitus type 2, hypertension and hyperlipidemia.

Conclusion

As expected, the odds of detecting adenomas and advanced adenomas were more common in the FITC compared to the SC group. FIT requires larger size to detect adenomas compared to screening colonoscopy and the difference was more pronounced for distal lesions. Risk factors of CRC influenced FIT and screening colonoscopy ADRs differently except for current smoking and obese BMI (increased odds of positive FITC and SC.) Understanding the demographic predictors for a positive CRC screening test will help providers and patients select the most suitable screening method.

Colorectal Cancer Knowledge and Screening Status among Companions of Patients Undergoing a Colonoscopy: An Opportunity for a Targeted Intervention

Purpose

To determine the colorectal cancer (CRC) knowledge, screening compliance, and preference(s) for an intervention to improve screening compliance among companions of patients undergoing colonoscopy.

Methods

Between March and June 2017, we approached individuals who accompanied patients undergoing a colonoscopy (companions) at one of three endoscopy centers to participate in a survey to determine CRC and CRC screening knowledge, attitudes, beliefs, and behaviors. Participants were also asked to provide input about content and format for a future CRC screening intervention. Companions aged 50 to 75 years were eligible to participate.

Results

Of the 338 companions approached for participation, 224 (66%) were eligible and completed the survey. Most companions were a spouse or family member (83%), married/living with a partner (78%), female (57%), and had less than a college degree (51%). The sample included companions from a minority race/ethnicity (20%) and those with an annual household income of less than \$30,000 (18%). In addition, companions predominantly had health insurance (96%), reported having a personal doctor (88%) and had an evaluation by a healthcare provider within the last year (85%). Among companions at average risk for CRC (n=166), 38 (23%) were not within screening guidelines and 29 companions reported that they had never completed a screening test. Many companions lacked knowledge about what age to begin CRC screening (85%) and factors associated with increased risk for CRC such as being African American (73%) or male (60%). Among companions not within screening guidelines, the most frequently reported barriers to CRC screening were being asymptomatic (74%) and lack of a provider recommendation (32%). While the majority of companions agreed or strongly agreed that CRC would be serious to their health (99%) and that CRC screening would help protect their health (97%), only 29% of average risk companions not within screening guidelines reported that they intend to undergo CRC screening within the next six months. Suggestions for a future CRC screening intervention to be completed by waiting companions included a video shown on a tablet that includes men and women from all races and ethnicities, a doctor and nurse, testimonials from individuals who completed CRC screening and the intervention should last fifteen minutes or less. Conclusions: Given that companions of patients undergoing a colonoscopy wait about two hours for test completion, developing a brief CRC screening intervention for them addresses an overlooked educational opportunity. The brief intervention should address the most commonly reported barriers, the benefits of screening, men and women of different races/ethnicities, doctors and nurses, testimonials from individuals who completed screening, and should activate companions to talk to their doctor about CRC screening.