Serum C-Reactive Protein As Predictor of Recurrence in Patients Undergoing Ileo-Colic Resection for Crohn's Disease. Results of a Longitudinal Prospective Study

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BACKGROUND Previous studies have evaluated the ability of biological markers to detect disease relapse in Crohn's disease (CD). Yet no studies have targeted a method to anticipate recurrence after surgical resection. C-Reactive Protein (CRP) is a valuable marker for predicting the outcome of several diseases including CD. The exact role of CRP as a prognostic factor for future recurrence in CD is not yet determined. Moreover no data are available investigating specific CRP modifications in these patients following surgery. Objective of present study was to determine the perioperative behaviour of the CRP in CD patients undergoing elective ileo-colic resection. Our hypothesis is that perioperative CRP changes are disease-specific and therefore could detect subset of patient with more aggressive disease. Secondary objective was to investigate the role of CRP as a potential early prognostic marker for future recurrence.

METHODS 52 patients undergoing UC resection for CD were prospectively enrolled. Serial CRP levels were assessed perioperatively: time 0, postoperative day (POD) 1 and POD 6. CD patients' perioperative CRP findings were compared against same interval assessments of two control groups undergoing right colectomy and appendectomy. C-Rehn's Disease Activity Index (CDAI) and Rutgers' score (RS) were evaluated for recurrence during 3 year follow-up protocol. RESULTS As expected, in all 3 groups CRP significantly increased 24 hours after surgery vs baseline but the increase was significantly higher in CR patients than in controls (p<0.001). Comparing to control groups CRP remained remarkably high in CD (mean 32.2mg/L) at POD 6. Difference between groups was statistical significant (p<0.001). All CD patients evaluated at 3 year follow up were in clinical remission. Endoscopic recurrence (Rs > 2) was found in 51% in 1 year and in 42% at 3 years. Possible relation between endoscopic recurrence rate or severity and perioperative CRP levels was investigated. Multivariate ordinal regression showed that postoperative increment of CRP is a prognostic factor of recurrence at 3 years. CONCLUSION Present preliminary data show disease-specific perioperative CRP levels for CD patients that reflect immunomodulation impairment involved in the disease biology. The data also suggest such immunologic change and consequent severity of disease might be explored early after surgery by determining CRP alterations. Data from larger series can confirm that perioperative CRP levels might be considered a novel prognostic factors of surgical recurrence.

SSAT Abstracts

Clinical Outcomes for Neuroendocrine Tumors of the Duodenum and Ampulla of Vater: A Population-Based Study

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BACKGROUND Neuroendocrine tumors (NETs) of the duodenum are quite rare representing only 4% of all carcinoid tumors. Limited single-institution case series indicated that ampullary NETs have worse survival than NETs located in the duodenum. The aim of the current study was to evaluate the overall survival (OS) of patients with ampullary NETs compared to patients with duodenal NETs using a population based registry. METHODS We conducted a retrospective comparative cohort study using the Surveillance, Epidemiology, and End Results (SEER) registry from 1988 to 2009. Patients with pathology confirmed NETs of the duodenum and ampulla of Vater were identified, and overall survival was evaluated using Kaplan-Meier estimates and Cox proportional hazard regression. Multivariate survival analyses included covariates with p<0.1 and less than 10% of data missing. RESULTS The study cohort included 1360 (92%) patients with duodenal NETs and 120 (8%) with ampullary NETs. Ampullary NETs were larger (median tumor size 18 vs. 10 mm, p<0.001), higher grade (poorly and undifferentiated tumor 42% vs. 12%, p<0.001), and higher SEER historic stage (distant metastasis 18% vs. 9%, p<0.001) than duodenal NETs. Ampullary NETs were also more likely to be resected (78% vs. 60%, p<0.001). OS was significantly worse for patients with ampullary NETs than for patients with duodenal NETs (median OS 98 vs. 143 months, HR 1.38, 95% CI 1.02-1.86, p=0.03). For resected patients (n=978), OS was similar between ampullary and duodenal NETs (median OS 182 vs. 164 months; HR 1.42, 95% CI 0.96-2.09, p=0.078). Using univariate survival analyses, significant predictors for worse OS in resected patients included older age (p<0.001), larger tumor size (p<0.055), grade higher (p<0.001), and higher SEER historic stage (distant metastasis 18% vs. 9%, p<0.003) than duodenal NETs. Ampullary NETs were also more likely to be resected (78% vs. 60%, p<0.001). OS was significantly worse for patients with ampullary NETs than for patients with duodenal NETs (median OS 98 vs. 143 months, HR 1.38, 95% CI 1.02-1.86, p=0.03). For resected patients (n=978), OS was similar between ampullary and duodenal NETs (median OS 182 vs. 164 months; HR 1.42, 95% CI 0.96-2.09, p=0.078). Using univariate survival analyses, significant predictors for worse OS in resected patients included older age (p<0.001), larger tumor size (p<0.055), grade higher (p<0.001), and higher SEER historic stage (p<0.001). Among adjusting for significant predictors of OS, ampullary NETs had significantly worse OS than duodenal NETs (HR 1.63, 95% CI 1.05-2.53, p=0.031). CONCLUSIONS: NETs of the ampulla of Vater are more advanced at presentation and have worse OS than duodenal NETs. After controlling for significant predictors of OS, tumor location remained an independent predictor of OS in resected patients.

Overall Survival Ampullary vs. Duodenal Neuroendocrine Tumors

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Adenomas of the Ampulla of Vater: A Comparison of Outcomes of Operative and Endoscopic Resections

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Background: Data comparing operative and endoscopic resection of adenomas of the ampulla of Vater is limited. We reviewed our experience in the treatment of adenomas of the ampulla of Vater and compared the operative and endoscopic approaches. Methods: Retrospective review of all patients in the gastrointestinal endoscopy and surgical databases treated for adenomas of ampulla of Vater at our institution from 1992 to 2009. Clinicopathologic factors, morbidity, mortality, recurrence and survival of patients treated by endoscopic and surgical resection were comparatively analyzed. Results: A total of 137 patients (mean age 59 yrs), were treated for adenomas of the ampulla of Vater, 75 (55%) males, follow up 91% (mean 4.6 years). The adenomas were tubular in 55% (40%) patients, tubulovillous in 62% (45%) and villous in 20% (13%). Obstructive jaundice was more common in the operative resection group (p<0.001). Endoscopic resection was performed in 100 (73%) patients; operative resection was performed in 37 (27%). Seven percent of patients required only 1 endoscopic resection [piecemeal resection in 24 (36%), while 33 (42%) required 2 or more resections (range 2-5). Patients who underwent operative resection often had larger tumors >3.6 cm (p<0.001) or intraduodenal extension (p=0.04). Intraduodenal extension and ulceration had no effect on recurrence (p-values=0.62, 1.0) in both groups. Postoperative complications occurred in 48% of patients; post-endoscopic complications in 30% of patients (p<0.09). Post endoscopic resection complications included bleeding in 18 (7 required transfusion or endoscopic or angiographic intervention), pancreatitis in 11; severe necrotizing in 1; amputative obstruction from edema or blood clot in 2 and duodenal perforation in 1. Postoperative complications included pancreatic leak (9), surgical site infection (4), anastomotic leak (3), delayed gastric emptying (2), myocardiatic ischemia or dysrhythmia (2), and renal failure (1). One patient died of pancreatic leak with MOF following operative resection of a ampullary adenoma (mortality of 1%). Endocrine elevation was associated with a 3-fold higher risk of recurrences than operative resection, 5% of which were invasive cancers in both groups. Performing 2 or more endoscopic resections for complete tumor removal relative to 1 complete initial resection was associated with 5 times higher risk of recurrence (p<0.001). Conclusions: Endoscopic resection of adenomas of ampulla of Vater is associated with a 3-fold higher recurrence rate than operative resection, recurrences may be invasive. There is a 5-fold higher risk of recurrence if 2 or more endoscopic resections are needed for complete tumor removal as compared to one complete initial resection. Operative resection is associated with lower recurrence rates for larger tumors and tumors with intraduodenal extension.