neoplasias. With small numbers available for study in existing series, potential associations may escape detection. The purpose of this study was to evaluate the demographic, clinical, endoscopic, and histopathologic characteristics of an unusually large series of patients with adenomatous lesions of the duodenum and biopsies of the colon. Design. Using an electronic database we extracted demographic, clinical, endoscopic, and histopathologic data from patients who had duodenal and colonic biopsies submitted to a national pathology laboratory from 1/2008 to 8/2010 and compared the prevalence of gastric and colonic polyps in patients with and without DA. Results. There were duodenal biopsies from 114,529 unique patients (median age 53 years, 55% male) who had a histopathologic diagnosis of duodenal adenoma; 17.1% had high grade dysplasia. Four patients with duodenal adenocarcinomas and 63 patients identified as having one of the familial polyposis syndromes were excluded from the analysis. Of those with duodenal and colonic adenomas, 329 (median age 67 years, 55% male) had sporadic DA and 32,974 (median age 53 years, 35% male) did not. The main indications for endoscopy (GERD, pain, and anemia) were not different for patients with and without DA. Colonic adenomas were detected in 208 patients with DA (63%) and in 9,247 without DA (28%), OR 4.41 95% CI 3.52-5.53, p<0.001; colonic adenomas with high-grade dysplasia were found in 11 patients with DA (3%) and in 164 without DA (0.5%; OR 6.92 95% CI 3.72-12.86, p<0.001). The prevalence of colorectal adenocarcinoma was not significantly different in patients with or without DA (1.2% vs. 0.9%); however, colonoscopic polyp detection was higher among patients with DA. Most DA (97%) were detected in patients who incidentally. Therefore, the finding of an apparently sporadic DA should trigger a colonoscopy and prompt a clinical evaluation for a polyp or polyposis syndrome.

Mo1560
Capsule Endoscopy Assists in Establishing Diagnosis and Therapy With Minimal Risk: A Systematic Review and Meta-Analysis of the Pediatric Literature 2001-2010

Stanley a. Cohen1,2, Alan I. Klevens3
1Children’s Center for Digestive Health Care, Atlanta, GA; 2Children’s Healthcare of Atlanta, Atlanta, GA; 3Given Imaging, Yoqneam, Israel

Background. Small bowel capsule endoscopy (CE) presents particular advantages for evaluating children with unexplained gastrointestinal symptoms. The objective of this study was to systematically review the literature and evaluate the diagnostic accuracy of CE for the small bowel in children. Methods: MEDLINE (from 1966-2010) and abstracts from major pediatric gastroenterology meetings were searched for English-language articles on CE in patients (pts) < 18 years of age. Reports < 5 pts and duplicate studies were removed. The indications and outcomes were systematically compiled and categorized. Data on overall detection, completion and retention rates, were pooled and analyzed using a random effects model. Results: Fifty pediatric source documents with 740 procedures in 725 pts were found. The capsule was swallowed in 82.4% (95% CI 64.9-95.0). Suspicion or evaluation of IBD was the most common indication, as it was the case for all the use of CE (54% suspected CD, 10% known CD, 1%, UC, 3%, IBD). Evaluation of GI bleeding and/or undiagnosed anemia (OGIB) comprised 17% of indications, followed by evaluation of abdominal pain (13%), polyposis (11%) and other (5%). Completion and retention rates were 87.5% (85.0-93.0) and 2.6% (1.5-4.0), respectively. Gastric (4 pts, 0.5%) and SB (14, 1.9%) retention rates, by indication, were similar to those for adults. CE detected positive findings in 65.4% (54.8-75.2) vs SB radiography 17.8% (9.9-27.3). A new diagnosis was established in 69.4% (46.9-87.9) and therapy was changed in 68.5% (43.5-88.5). Except for relative indication rates, these results were comparable to pooled adult data. Conclusions. CE is effective in both pediatrics and in adults, though the frequency of indications vary. CE aids in diagnosis and evaluation of extent and severity of disease, assisting the physician in directing patient management in the pediatric patient population. Retention remains infrequent for both children and adults.

Procedures Primary Indication Mean % (95% Confidence Interval)

<table>
<thead>
<tr>
<th>Procedures</th>
<th>Primary Indication</th>
<th>Mean % (95% Confidence Interval)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pediatrics</td>
<td>N</td>
<td>CD</td>
</tr>
<tr>
<td></td>
<td>740</td>
<td>54%</td>
</tr>
<tr>
<td>Adult 1</td>
<td>1</td>
<td>100%</td>
</tr>
</tbody>
</table>

Mo1561
Accuracy of Endoscopic Ultrasound (EUS) in T-Stage of Ampullary Tumors: A Meta Analysis and Systematic Review

Sachin B. Wani1, Vladimir V. Kushnir1
1University of Mississippi Medical Center, Jackson, MS

Background: EUS is routinely used for confirming the diagnosis and staging of ampullary tumors. EUS staging helps to identify patients optimal candidates for endoscopic ampullectomy and avoid surgery in this group or those with uncomfortable disease. The accuracy of EUS staging of ampullary cancer has been variable. Aims: In this systematic review and meta-analysis to determine: 1) diagnostic characteristics of EUS in T-stage of ampullary cancer and 2) diagnostic characteristics of EUS in differentiating T1 from T2-4 stage Methods: Studies were identified by searching Ovid MEDLINE, PubMed, and Cochrane Library database for reports published between 1966 to October 2010 using a reproducible search strategy. Only studies published in English were selected. References from retrieved articles and national meeting abstracts for the past 2 yrs were manually reviewed. Only EUS studies reporting T-stage accuracy comparing to surgery (gold standard) were included. 2 reviewers independently scored the identified studies for methodology and abstracted pertinent data. Pooling was conducted by random-effects model using Der-Simanion-Laird method. The Cochran’s Q-test with inverse variance weights was used to assess heterogeneity of the sensitivity, specificity, and diagnostic odds ratio. Diagnostic characteristics were compared between 2 time periods (1990-99 vs. 2000-10) to study the effect of improvement in technology over time. Results: 15 studies (576 pts) met defined inclusion criteria. The pooled sensitivities and specificities of individual T-stages for EUS were: T1-sensitivity 71% (95% CI 55-91), specificity 95% (91-98), T2-sensitivity 73% (65-85), specificity 88% (80-96), T3-sensitivity 80% (73-87), specificity 92% (87-97) and T4-sensitivity 80% (52-100) and specificity 99% (98-100). The overall diagnostic characteristics of EUS in confirming that the T-stage is higher than T1 (T1 vs. T2-4) were: pooled sensitivity 76% (69-85) and specificity 92% (86-99). There was no significant difference in diagnostic characteristics of EUS to differentiate between T1 vs. T2-4 tumors across the two time periods (1990s vs. 2000s): pooled sensitivity 78% (69-86) vs. 74% (65-85), p=0.5 and pooled specificity 84% (66-100) vs. 80% (60-90), p=0.56. The p-value for heterogeneity for all the pooled sensitivity and specificity estimates were not significant (p>0.10). Conclusions: Although EUS is considered an important diagnostic tool for the evaluation of ampullary tumors, this meta-analysis shows that it has only moderate sensitivity and specificity for T-staging of ampullary cancers. EUS has also limited ability to correctly identify patients who might be candidates for endoscopic ampullectomy probably due to difficulties in characterizing submucosal invasion. Improvements in EUS technology are required to improve these limitations and help select patients for endoscopic ampullectomy.

Mo1562
The Efficacy of CAP Assisted Colonoscopy (CAC): A Meta-Analysis of Randomized Controlled Trials

Mohamed O. Othman, Emanuele Dabizzi, Bashar Qumseya, David S. Loeb, Massimo Raimondo, Timothy A. Woodward, Michael B. Wallace

Internal Medicine/Gastroenterology, Mayo Clinic, Jacksonville, FL

Purpose: Cap Assisted Colonoscopy was proposed as a technique to improve cecal intubation rate, cecal intubation time, and adenoma detection rate. However, there are conflicting data regarding the usefulness of the CAC. We conducted a meta-analysis of the efficacy of CAC in comparison with the standard colonoscopy (SC). Methods: MEDLINE (from 1966-2010) and abstracts of gastroenterology scientific meetings in the last 3 years were searched (search date October 2010). Only randomized clinical trials conducted in adult subjects and used transparent cap were included. Studies were assigned a quality score. Standard forms were used to extract data regarding study design, outcome measures and adverse effects by two independent reviewers. We performed a meta-analysis with random effects model to compare cecal intubation rate, cecal intubation time and adenoma detection rate. Separate analyses were performed for each main outcome by using weight mean difference or odds ratio depending on the nature of the outcome. Heterogeneity was measured by I2 measure of inconsistency. Funnel plot was used to detect publication bias. Results: Seven trials satisfied the inclusion criteria with a total of 5444 patients (1720 CAC, 1724 SC). Six trials were from Asia and one trial was from North America. Two trials used retractor/Cap with maximum extension up to 5mm, while five trials used non retractable caps protruding two or four mm from the distal end of the colonoscope. With the exception to the cecal intubation rate, there was significant heterogeneity observed among other outcomes in the studies (I2 = 85% and 75% for pooled cecal rate of EUS staging and adenoma detection respectively). Cecal intubation rate was similar between the 2 groups.