GIPS JOURNAL WATCH, JAN-FEB 2014

Am J Gastroenterol, Jan 2014

In vivo diagnostic accuracy of high-resolution microendoscopy in differentiating neoplastic from non-neoplastic colorectal polyps: a prospective study.
Parikh ND, et al. Am J Gastroenterol. 2014; 109(1):68-75.
Three endoscopists prospectively examined 171 polyps from 94 patients with conventional endoscopy as well as that were then imaged by high-resolution microendoscopy (HRME) and classified as neoplastic (adenomatous, cancer) or non-neoplastic (normal, hyperplastic, inflammatory). The accuracy of HRME (94%) was much higher than conventional endoscopy (65%) for the determination of neoplastic colorectal polyps. HRME was better for evaluation of small colorectal polyps (less than 10 mm) and diminutive polyps (less than 5 mm). The authors conclude that HRME has high accuracy in determining neoplastic vs. non-neoplastic polyps, and may allow the endoscopist to selectively determine which lesions can be left in situ, which lesions can be discarded, and which need pathologic evaluation.
http://www.ncbi.nlm.nih.gov/pubmed/24296752

Hum Pathol, Feb 2014

Crohn enteritis-associated small bowel adenocarcinomas exhibit gastric differentiation.
Whitcomb E, et al. Hum Pathol. 2014; 45(2):359-67.
This study compares 15 sporadic small bowel adenocarcinomas and 11 Crohn disease-associated small bowel adenocarcinomas. The Crohn disease-associated small bowel adenocarcinomas showed histologic features similar to gastric adenocarcinoma and were more frequently positive for CK7 as well as gastric mucins MUC5AC and MUC6. CDX2 expression was similar in both groups. The authors suggest that the gastric differentiation may be related to pyloric metaplasia, a frequent finding in Crohn disease.
http://www.ncbi.nlm.nih.gov/pubmed/24331840

Hum Pathol, Feb 2014

Immunohistochemical distinction between intrahepatic cholangiocarcinoma and pancreatic ductal adenocarcinoma.
Lok T, et al. Hum Pathol. 2014; 45(2):394-400.
This immunohistochemical study examines 42 intrahepatic cholangiocarcinoma (ICC) and 60 metastatic pancreatic ductal adenocarcinoma (PDA) in liver biopsies. In this study, 41 ICCs and 60 PDAs were immunohistochemically evaluated for the expression of S100P, pVHL, IMP3, maspin, MUC5AC, and CK17 proteins. pVHL expression is more common in ICC than PDA (71% vs. 5%). S100P, MUC5AC, and CK17 were frequently expressed in PDAs than ICCs (95%, 67%, 60% vs. 27%, 12%, IMP3 expression was similar in both groups. ICC showed a S100P-/pVHL+/MUC5AC-/CK17- staining pattern, while PDAs were S100P+/pVHL-/MUC5AC+/CK17+ and S100P+/pVHL-/MUC5AC-/CK17+.

http://www.ncbi.nlm.nih.gov/pubmed/24439226

Hum Pathol, Feb 2014

Serrated lesions of the appendix frequently harbor KRAS mutations and not BRAF mutations indicating a distinctly different serrated neoplastic pathway in the appendix.
Pai RK, et al. Hum Pathol. 2014; 45(2):227-35.
This study examined 7 appendiceal hyperplastic polyps, 21 sessile serrated adenoma/polyps (SSA/P), 9 SSA/Ps with cytological dysplasia, 7 traditional serrated adenomas, and 2 adenomas with prominent serrations, while 86 appendiceal non-serrated dysplastic lesions were the control group. There wes no significant difference in KRAS mutations in serrated non-dysplastic lesions, serrated dysplastic lesions and the control group of non-serrated dysplastic lesions. KRAS mutations were identified in 33% of hyperplastic polyps, 58% of SSA/Ps, and 57% of SSA/Ps with cytological dysplasia. BRAF V600E mutations were identified in only 4% of appendiceal lesions. In view of differences in KRAS and BRAF mutations in appendiceal vs. colorectal polyps, this study suggests that the serrated pathway in the appendix is different from colorectum.
http://www.ncbi.nlm.nih.gov/pubmed/24439221

Hum Pathol, Jan 2014

Cytoplasmic OCT4 staining is a sensitive marker of neuroendocrine differentiation.
Alexander RE, et al. Hum Pathol. 2014; 45(1):27-32.
This study shows that OCT4 staining is observed in 96% of carcinoid tumors (n=27), 67% of moderately differentiated neuroendocrine tumors N=6) and 12% of poorly differentiated neuroendocrine tumors (n=17). OCT4 and Ki-67 staining showed an inverse correlation. On immunoelectron microscopy, OCT4 was localized to neurosecretory granules. The authors suggest that OCT4 may be useful for the diagnosis of neuroendocrine tumors.
http://www.ncbi.nlm.nih.gov/pubmed/24182453

Hum Pathol, Jan 2014

Pleomorphic solid pseudopapillary neoplasm of the pancreas: degenerative change rather than high-grade malignant potential.
Kim SA, et al. Hum Pathol. 2014; 45(1):166-74.
This study compares histologic, immunohistochemical, and clinical features of 18 pleomorphic SPNs with 121 conventional SPNs. Pleomorphic SPNs was associated with older age; no differences were observed in other features such as gender, tumor size, infiltrative pattern, tumor extent, mitosis, and Ki-67 index, recurrence, or metastasis. p53 expression was higher in pleomorphic SPNs (64.7% vs. 1.8%); staining with β-catenin and E-cadherin was similar. The study shows that nuclear pleomorphism is seen in around 18% of SPNs; despite more frequent p32 mutation, these tumors are not more aggressive compared to conventional tumors.
http://www.ncbi.nlm.nih.gov/pubmed/24321526

AJSP, Jan 2014

Leiomyoma of the Gastrointestinal Tract With Interstitial Cells of Cajal: A Mimic of Gastrointestinal Stromal Tumor
Deshpande A et al. Am J Surg Pathol. 38(1):72-77, Jan 2014.
Some leiomyomas have KIT-positive interstitial cells of Cajal (ICC) that lead to diagnostic confusion with GIST. Leiomyomas throughout the GI tract are studied for PDGFRA and KIT exon mutation, prevalence of ICCs, and KIT- and DOG1 positivity. In particular, ICCs are present in deep esophageal leiomyomas, leading to possible misdiagnosis as GIST.

Cytokeratin 17: An Adjunctive Marker of Invasion in Squamous Neoplastic Lesions of the Anus
Nazarian RM et al. Am J Surg Pathol. 38(1):78-85, Jan 2014.
CK17 is associated with disease progression in SCC of cervix, esophagus, and oral cavity. It shows 100% sensitivity and 91% specificity in identifying invasion in SCC and basaloid SCC of anus, with the caveat that pure basaloid anal carcinoma is CK17-negative.

AJSP, Feb 2014

Site-specific Tumor Grading System in Colorectal Cancer: Multicenter Pathologic Review of the Value of Quantifying Poorly Differentiated Clusters
Ueno H et al. Am J Surg Pathol. 38(21)197-204, Feb 2014.
Multicenter study of more than 3000 CRC cases that extends Dr. Ueno's previous work on tumor budding and its impact on prognosis in colorectal cancer. Poorly differentiated clusters (PDC) are defined as at least 5 cancer cells and lacking a gland-like structure; they are counted with the 20X lens in the field with the most clusters. Tumors with fewer than 5 such clusters are G1, 5-9 are G2, and at least 10 PDCs are G3. Disease-free survival for G1, G2, and G3 is 91.6%, 75.4%, and 59.6%, respectively ($P<0.0001$) and PDC grade impacts prognosis independent of TNM staging. Reproducibility of tumor grade (weighted kappa) is 0.40 for AJCC grade and 0.52 for PDC grade. Analysis of PDC grade should be considered in evaluation of CRC.

Tufting Enteropathy Revisited: The Utility of MOC31 (EpCAM) Immunohistochemistry in Diagnosis
Ranganathan S et al. Am J Surg Pathol. 38(2):265-272, Feb 2014.
Loss of MOC31 staining shows 100% sensitivity and specificity for diagnosis of tufting enteropathy, a rare disease causing intractable diarrhea in early childhood, in a cohort of 15 analyzable patients.

Histopathology, Feb 2014

Ulcerative colitis or Crohn's disease? Pitfalls and problems (pages 317–335)
Feakins RM. Histopathol. 64:317-335, Feb 2014.
Comprehensive review of pitfalls in subclassifying IBD as UC versus Crohn disease.

Arch Pathol Lab Med, Feb 2014

Differentiation of Pancreatic Ductal Adenocarcinoma From Chronic Pancreatitis by PAM4 Immunohistochemistry
Chanjuan S et al. Arch Pathol Lab Med 138:220-228, Feb 2014.
On tissue microarrays, PAM4 antibody aids in distinguishing ductal adenocarcinoma from chronic pancreatitis. It labels 19% of chronic pancreatitis but only in foci of PanIn; inflamed areas are PAM4-negative, whereas MUC1, MUC4, CEACAM5/6, and CA19-9 label the vast majority of chronic pancreatitis cases including non-neoplastic inflamed areas. All of these antibodies label the majority of ductal adenocarcinoma cases (see Table 1 for breakdown).
Abstract

Modern Pathology, Jan 2014

Esophageal leukoplakia or epidermoid metaplasia: a clinicopathological study of 18 patients
Singhi AD, et al. 2014 Jan;27(1):38-43. Epub 2013 Jun 14.
Esophageal epidermoid metaplasia is similar to its oral counterpart (leukoplakia) with epithelial hyperplasia, thickend basal layer, acanthotic midzone, prominent granular cell layer, and superficial hyperorthokeratotis. The lesion was most often seen in the mid to distal esophagus with dysphagia the most common clinical complaint. The lesions were most frequently associated with tobacco smoking and, to a lesser extent, alcohol consumption. The differential diagnosis includes pill induced esophagitis, corrosive injury, and sloughing esophagitis. Some of the lesions examined (17%) were associated the adjacent dysplasia or carcinoma, and hence close follow up is appropriate.
http://www.ncbi.nlm.nih.gov/pubmed/23765246

Prognostic significance of tumor budding in rectal cancer biopsies before neoadjuvant therapy
Ailín C Rogers, et al. Mod Pathol. 2014 Jan;27(1):156-62. Epub 2013 Jul 26
This study looks into the predictive value of intra-tumoral budding for the outcomes in neoadjuvant chemoradiotherapy. Out of 89 patients who met selection criteria, from a set of 185 patients with locally advanced rectal carcinoma, 20% had tumor budding, defined as a single cancer cell or a group of <5 detached tumor cells found in the stroma of the biopsy specimen. None of the patients with intra-tumoral budding in pretreatment biopsies had a complete response to chemotherapy and these patients also had worse survival rates. The authors propose that, if the findings are confirmed in other series, that intra-tumoral budding in biopsies might be a contraindication for neoadjuvant therapy.
http://www.ncbi.nlm.nih.gov/pubmed/23887296

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