Pathologists and gastroenterologists

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Are they using the same language?

Histopathology is the study of the cytological and histological structure of normal or diseased tissue. It is the most extensive field in medicine, serving almost all the other disciplines. The identification and quantification of tissue features has major implications for clinical diagnosis, management, and follow up,[1] making evidence based cellular pathology one of the pillars of evidence based medicine. As the gold standard for diagnosis, histopathological findings must be accurate, reliable and reproducible, and the language must facilitate clear, direct communication among pathologists themselves and between pathologists and clinicians. This issue is particularly important in malignant disease, for proper evaluation, diagnosis, and management.[2–5] This may be a particular problem in different countries and cultures. For example, two studies have reported a wide variation between Japanese and Western pathologists in the diagnosis of gastric cancer,[6 7] particularly high grade dysplasia and invasive tumours.

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In gastroenterology, the most common clinical decisions based on pathological findings involve the differentiation of malignant from benign lesions, characterisation of inflammation (for example, ulcerative colitis, Crohn's disease, or *Helicobacter pylori* gastritis), and identification of organ rejection or graft versus host disease. For example, a gastric polyp may be benign or neoplastic (adenomatous polyp or early gastric cancer or mucosa associated with lymphoma),[8] as may a colonic polyp (adenoma with or without villous component, with or without high grade dysplasia, or invasive cancer).[9] Histopathological study of a biopsy from the terminal ileum can differentiate Crohn's ileitis from tuberculosis,[10] and the study of a colonic biopsy can differentiate ulcerative colitis from specific, self limited colitis, or Crohn's disease.[11 12]

In general, good tissue diagnosis is based on three procedures: sampling (biopsy), morphological evaluation, and reporting.[1]

SAMPLING

It is the responsibility of the endoscopist to supply appropriate samples of both solid and tubular organs. In liver biopsy, accuracy can be increased with more needle passes and more samples.[13] One study found that increasing the number of biopsy samples from two to eight improved the detection of oesophageal carcinoma from 95.8% to 100%, meaning that four cases out of 100 are missed if only two biopsy samples are taken.[14] Surveys of colorectal operations yielded a wide range (from none to 24) in the number of lymph nodes harvested by different surgeons.[15 16]

MORPHOLOGICAL EVALUATION

Pathologists should examine and describe only features that are both relevant to the clinician and reproducible.[1] Efforts should be directed at lowering interobserver and intraobserver differences to a minimum. Dedicated pathologists who process the gastrointestinal samples must participate in professional meetings and symposiums, and keep abreast of new developments reported in accredited medical journals in the field. They must be well versed in the common terminology and follow accepted guidelines, such as the Sidney classification of gastritis,[17] and low grade versus high grade dysplasia in Barrett's oesophagus[18] and ulcerative colitis.[19]

REPORTING

The pathologist must accurately communicate the result and provide all the necessary data so that the gastroenterologist can make the diagnosis and take the necessary steps or, in some cases, recognise any unknowns or uncertainties.[1] Bull *et al* found that up to 50% of pathologists' reports failed to provide all the accepted data needed for colorectal cancer staging.[20] In another study, the use of checklists was found to increase the contents of pathology reports on colorectal cancer findings to acceptable levels.[21] Pathologists must be made aware that such terms as "consistent with" or "suggestive of" can be interpreted differently by different people.[22] According to one study, understanding may be increased with the use of a scoring system.[23] Ignoring a specific query of the clinician can lead to confusion. For example, an "inflammatory polyp" should not be diagnosed as "colitis", "intestinal metaplasia in Barrett's oesophagus" as "normal small bowel", "low and high grade dysplasia" as "mild, moderate, or severe dysplasia" (descriptive terms that have no clinical application). Polyps should be localised and graded according to the villous component and amount of dysplasia.

The pathologist's diagnosis can dictate a change in patient management, follow up, and treatment. For example, a diagnosis of Barrett's oesophagus (Alcian blue positive intestinal metaplasia) warrants annual or biennial endoscopy and biopsy, and treatment with high dose proton pump inhibitors.[18] When the diagnosis is low grade dysplasia, the next endoscopy can wait six months, but when the diagnosis is high grade dysplasia, endoscopic mucosal resection or surgery is needed.[18] A diagnosis of coeliac disease on duodenal biopsy confines the patient to a life long, gluten free diet,[24] whereas *Giardia lamblia* infestation is treatable with short term metronidazole.[25] Findings of a premalignant state of dysplasia associated with a lesion or mass in patients with long standing ulcerative colitis mandate total colectomy.[19] Burroughs and colleagues found "best practice reporting" in only 20% of gastric and 18% of oesophageal cancer reports.[26] A poor interdisciplinary dialogue can lead to mistreatment or mismanagement, sometimes with dire outcome.

In summary, for optimal communication between pathologists and gastroenterologists, pathologists must ensure accurate assessment and clear and relevant reportage, and the gastroenterologist must ensure proper and adequate sampling. The use of standard guidelines in both fields will support evidence based medicine, for the ultimate benefit of the patient.

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