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GI PATHOLOGY UPDATE

E-SCOPE TO M-SCOPE UPDATE

Gastric Mucosal Biopsies

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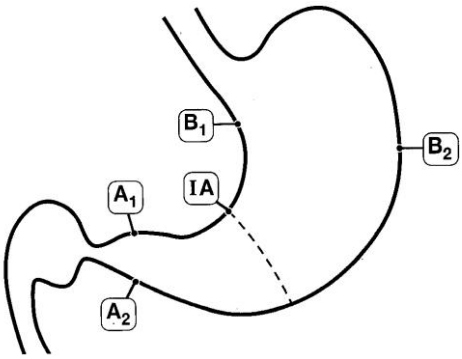

Figure 1
M.F. Dixon et al.
Classification and Grading of Gastritis
The Updated Sydney System
Am. J. Surg Patrol 20 (10):1161-1181, 1996

Why, Where and How Many?

WHY: Most gastroenterologists recognize that gastroscopy is incomplete without gastric mucosal biopsy. This axiom results from the fact that endoscopic alterations do not always correlate with histopathologic findings. Endoscopic features such as erythema do not necessarily translate into microscopic changes. Viceversa, common causes of gastric mucosal injury may be unrecognized due to their sometimes normal endoscopic appearances. Furthermore, and of upmost clinical relevance, Helicobacter pylori gastritis and NSAID induced gastropathy can be indistinguishable on endoscopy, but have distintictive histologic features.

WHERE: International workshops have recommended multiple mucosal biopsy protocols which include standard biopsies from the antrum, corpus and incisura angularis (See Figure 1). Although optimal for accurate classification and grading of gastritis, these recommendations have not gained wide acceptance among gastroenterologists in private practice.

Antral biopsies taken within 2 to 3 cm from the pylorus, along the lesser and greater curvatures, have a high yield for the diagnosis of chemical/reactive gastropathy (either NSAID induced or bile reflux) and for the diagnosis of antral predominant H.pylori gastritis, the phenotype of H.pylori infection associated with duodenal ulcer.

Mapping studies in which several biopsies were examined to access diagnostic probability of H.pylori diagnosis have demonstrated the added value of biopsing both antrum and corpus. Gastric body (corpus) biopsies taken 8 cm from the cardia, along the greater and lesser curvatures are valuable for the diagnosis H.pylori infection in patients either treated with proton pump inhibitors or with marked intestinal metaplasia of the antrum. Corpus biopsies are mandatory for the identification of corpus predominant multifocal atrophic H.pylori gastritis, the phenotype of H.pylori infection associated with gastric cancer, and for the diagnosis of chronic atrophic gastritis associated with autoimmune gastritis/pernicious anemia.

In addition, gastric biopsies obtained from the antrum-corpus junction, especially in the region of the incisura angularis, are useful for the evaluation of intestinal metaplasia and gastric displasia, histologic indicators used for gastric cancer risk assessment.

Gastric mucosal biopsy specimens should be submitted to the laboratory in separate containers and labeled accordingly. This is important to avoid misdiagnosis as may occur when the combination of atrophy of oxyntic glands and the presence of pseudopyloric metaplasia could lead to the misinterpretation of a biopsy from the gastric body as gastric antrum.

HOW MANY: The published recommendations establish that at least two biopsies from the gastric body and two biopsies from the antrum should be obtained and submitted separately. A single mucosal biopsy is suboptimal and may lead to a misdiagnosis due to sampling error. One biopsy from the incisura angularis is recommended when gastric cancer risk assessment is clinically important.

In our laboratory, biopsy specimens are processed separately and a Diff Quick special stain (modified Giemsa stain) is routinely performed on each specimen to identify H.pylori organisms. An Alcian blue-PAS stain may be performed in the biopsy from the incisura angularis to facilitate in the identification and classification of intestinal metaplasia.

Reality Check: The above described gastric biopsy management protocol, coupled with adequate endoscopic and clinical information, is optimal to achieve accurate clinicopathologic diagnoses of gastritis.

Unfortunately, in our daily GI Pathology practice we are not infrequently requested to render a diagnosis on a single antral biopsy.