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**Gastroduodenal mucosal hemodynamics by endoscopic reflectance spectrophotometry.**

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The reflectance spectrophotometric technique measures an index of mucosal hemoglobin concentration and an index of oxygen saturation by spectral analysis of light reflected from the mucosal surface. Using a commercially available unit, a technique for obtaining reproducible endoscopic measurements with acceptable intraobserver and interobserver variability was developed in the anesthetized dogs. The reflectance spectrophotometric finding that experimentally induced prehepatic portal hypertension did not affect gastric mucosal blood flow was confirmed by hydrogen gas clearance measurements. Endoscopic studies in patients with active duodenal ulcer disease revealed a higher index of mucosal hemoglobin concentration and a normal index of oxygen saturation (i.e., an increase in blood flow) at the margin of the ulcer compared with the adjacent normal appearing mucosa.

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