Gastrointestinal carcinoids are well-differentiated endocrine neoplasms that belong to a diverse group of tumors that arise from cells of the diffuse endocrine system. A wide variety of specialized endocrine cells that populate the gastrointestinal mucosa and submucosa give rise to carcinoids. Consequently, carcinoids may occur throughout the gastrointestinal tract and produce a variety of hormones and protein products that are associated with specific clinical symptoms. Biologic behavior of carcinoids varies by site and cell type, but all gastrointestinal carcinoids are considered to have malignant potential. They may produce specific syndromes such as Zollinger-Ellison syndrome, or they may occur in association with inherited syndromes such as multiple endocrine neoplasia type 1 or neurofibromatosis type 1. Metastatic carcinoids may produce carcinoid syndrome. The small intestine is the most common location for gastrointestinal carcinoids. Most small intestinal carcinoids arise from enterochromaffin cells of the distal ileum that produce serotonin. Small intestinal carcinoids often have an aggressive biologic behavior and, as such, patients frequently have metastases to regional lymph nodes and the liver at initial presentation. Pathologic and radiologic manifestations of serotonin-producing small intestinal carcinoids are related to local and regional effects of serotonin and its metabolites. In contrast, carcinoids of the appendix and rectum are commonly discovered incidentally as small lesions that are unassociated with clinical evidence of hormone production and have a more indolent clinical course. Carcinoids of the stomach, duodenum, and colon are uncommon but have distinctive clinical, pathologic, and radiologic appearances. Knowledge of the diverse clinical, pathologic, and radiologic spectrum of gastrointestinal carcinoids is important in the imaging and management of patients with suspected carcinoids or focal gastrointestinal masses.

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Radiographics January/February 2007