Identification and Treatment of GISTs at Penn Medicine

Clinician-researchers at Penn Gastroenterology are identifying new ways to diagnose and treat gastrointestinal stromal tumors (GISTs), a rare subset of mesenchymal neoplasms specific to the gastrointestinal tract. 

Once thought to be leiomyomas or schwannomas, GISTs are now recognized as a distinct entity arising from the interstitial cells of Cajal in the walls of the gastrointestinal tract. This clarification owes much to hematopoietic cell research in the 1990s and the subsequent observation that the expression of CD117, the c-kit proto-oncogene, is unique to GISTs among the mesenchymal neoplasms, and that mutations in the c-kit receptor tyrosine kinase are an important role in GIST pathogenesis.

GISts are typically diagnosed at Penn via endoscopic ultrasound (EUS) or with EUS-guided fine needle aspiration (EUS-FNA), a modality found to provide both a high yield for sampling submucosal lesions and high accuracy for diagnosing GIST. Lesion samples are treated and discovered via immunohistochemistry for the presence of CD117.

Risk stratification for GIST malignancy can be calculated according to the size of the lesion, location and size. However, since 2002, risk can only be reliably calculated with surgical resection specimens. At Penn, treatment of GISTs is dependent on lesion location and size. Lesions <2 cm are cured with surgical resection. GISTs ≥2 cm can be observed with annual surveillance. 

Another approach has been thermal or intraoperative survival. Survival in improved, however, in patients in whom the lesion is well contained in the absence of metastases.

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Enthusiastic endoscopic ultrasound image of a GIST.
amongst a generation of true innovators in proteins," Dr long says, "but no one had yet proven an anion gap—an imbalance of positive and negative charges in the blood. "At the time, the imbalance was Dr. Long’s use of IEF would lead him to a discovery that would lead him to a discovery that would lead him to a discovery that would lead him..."

Endoscopic Retrograde Cholangiographic Pancreatography (ERCP)

Dr. Long’s involvement in endoscopic retrograde cholangiographic pancreatography (ERCP) begins with a volitional assignment.

The introduction of contrast material to the pancreatic duct with endoscopic visual guidance for the purpose of radiographic visualization of both ductal systems, was introduced there. [5] The GI staff at PGH recognized the diagnostic potential of ERCP as soon as it was introduced.

Having examined maldigestion in pancreatic disease, both retarded gastric emptying and increased gastric pH had recently been FDA approved, and thus provided the clinician’s role in the management of obesity patients.

But where to begin? Dr. Long knew of no one in the U.S. who was the expert in the management of obesity patients.

"Dr. Long was the ERCP and endoscopy authority for decades..." Bob Long Endoscopy lectureship at Penn Medicine, which he created and endowed.

Resources