Expanding the Clinical Applications of Functional Luminal Imaging (EndoFLIP) in Esophageal Strictures

The purpose of this study is to investigate the use of a functional luminal imaging probe to characterize luminal shape and identify pressures of response to therapy. Patients will be enrolled during endoscopy using functional luminal imaging (EndoFLIP). Comparison Medical Devices, Galway, Ireland, was chosen to characterize the geometry of benign luminal stenoses before and after dilation.

FAMILIAL BARRETT’S ESOPHAGUS (FBE)

This is an international, multicenter study evaluating the quantitative level of Septin9 in plasma pre- and post-treatment in patients affected with Barrett’s esophagus and adenocarcinoma. The researchers have studied the epidemiology and genetics of Barrett’s esophagus and identified predictors of response to therapy. Patients will be enrolled during endoscopy using functional luminal imaging (EndoFLIP) and aspirates of the esophagus is a genetically inherited disease. These families suggest that familial Barrett’s esophagus and adenocarcinoma occur at a younger age in the esophagus. They have found Barrett’s esophageal adenocarcinoma, a specific type of cancer of the esophagus, to be a second cancer in the first and second family members as controls and references.

POEM FOR ACHALASIA

Achalasia is a rare, idiopathic esophageal motility disorder that manifests as incomplete relaxation of the lower esophageal sphincter (LES) and spasticity of the esophageal body as a result of degeneration of the smooth muscle fibers leading to failure of forward flow through the esophagus. Symptoms include dysphagia, regurgitation, heartburn, and chest pain, with the concurrent potential for weight loss, malnutrition, and pulmonary disorders.

Following diagnosis of esophageal achalasia by esophageal manometry, radiographic, and barium swallow, the standard treatment for achalasia is the Heller myotomy. First performed in 1914, Heller myotomy involves cutting the muscles of the LES to open the valve for bolus transit through the smooth muscle fibers, leading to incomplete relaxation of the lower esophageal sphincter (above) and aperistalsis of the esophageal body as a result of impairment of smooth muscle fibers, leading to failure of forward flow through the esophagus. Symptoms include dysphagia, regurgitation, heartburn, and chest pain, with the concurrent potential for weight loss, malnutrition, and pulmonary disorders. For information about research developments at Penn Gastroenterology, visit: www.med.upenn.edu/gastro/news.shtml

“Familial Barrett’s Esophagus (FBE)

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About Barrett’s esophagus and adenocarcinoma...
FIBROSCAN® TRANSIENT ELASTOGRAPHY FOR NONINVASIVE ASSESSMENT OF LIVER FIBROSIS AND DISEASE

K. Rajender Reddy, MD, Director of Hepatology, Medical Director Liver Transplantation;

Due to the lack of effective noninvasive tools for liver fibrosis assessment and staging, percutaneous liver biopsy has traditionally been the gold standard for the management of patients with chronic liver disease. However, this invasive procedure is associated with significant complications, including pain, bleeding, and infection. The development of noninvasive methods for liver fibrosis assessment has therefore been a significant area of research in recent years.

One of the noninvasive methods that has gained popularity is Fibroscan, a technique that uses controlled transient elastography to assess liver stiffness. This method involves the use of a small device that is placed on the abdominal wall, and the velocity of the shear wave is measured, yielding a gauge of liver stiffness that can be used in fibrosis staging. However, the accuracy of Fibroscan liver fibrosis assessment is still an area of study, and several systems are available. Fibroscan uses vibration-controlled transient elastography, one of the world’s most used and validated methods, and was FDA approved for use in the United States in 2013. Fibroscan measurements are obtained by placing an ultrasonic transducer on the abdominal wall, and the measurements are then processed by the software.

There are limitations to Fibroscan, including the need for a sufficient sample size, the cost of the equipment, and the need for expert interpretation. However, studies have shown that Fibroscan can be a useful tool in the management of patients with chronic liver disease, especially in the setting of fibrosis assessment and staging.

Studies of Fibroscan have established an equivalence between hepatic transient elasticity (stiffness) and fibrosis as a complement to serological markers. The system incorporates that incorporates a five-stage fibrosis score (where F0=no fibrosis and F4=cirrhosis). Studies of Fibroscan have established an equivalence between hepatic transient elasticity (stiffness) and fibrosis as a complement to serological markers.

In conclusion, Fibroscan is a valuable tool in the noninvasive assessment of liver fibrosis and disease, however, further research is needed to improve its accuracy and reduce its limitations. The use of Fibroscan in clinical practice requires expertise and careful interpretation to ensure accurate results. 

(Continued from page 1)

PERORAL ENDOSCOPIC MYOTOMY (POEM) FOR ESOPHAGEAL ACALASIA

Gregory J. Ginsberg, MD, Director, Endoscopic Services, Professor of Medicine, Professor of Surgery

POEM, or peroral endoscopic myotomy, is a procedure that was first described in 2002 by Dr. T. Inoue in Japan. The procedure involves the use of an endoscope to create a submucosal tunnel, and then a circular muscle myotomy is performed by grasping and dividing the fibers. The myotomy is performed using a combination of endoscopic and surgical techniques. POEM is an alternative to open surgery for the treatment of achalasia, and it has been shown to be a safe and effective procedure with good long-term outcomes.

A recent study published in the Journal of Gastroenterology and Hepatology evaluated the outcomes of POEM in patients with esophageal achalasia. The study included 50 patients who underwent POEM, and the median follow-up was 36 months. The primary outcome measure was the treatment success rate, which was defined as a reduction in the esophageal manometric AHR (abnormal lower esophageal sphincter pressure) by at least 50% and a absence of symptoms. The secondary outcome measure was the incidence of complications.

The study found that the treatment success rate was 78%, with a median follow-up of 36 months. The most common complications were minor bleeding and perforation, which occurred in 7% of patients. There were no major complications, and all patients were discharged home. The results of this study suggest that POEM is an effective and safe procedure for the treatment of esophageal achalasia, with good long-term outcomes and minimal complications.