Bolus Propagation Esophagography (BPE) (Hadasit)

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Need:

Chronic untreated Gastroesophageal Reflux (GERD) can cause serious complications. Inflammation of the esophagus from refluxed stomach acid can damage the lining and cause bleeding or ulcers (esophagitis). Scars from tissue damage can lead to narrowing of the esophagus (strictures) and make swallowing difficult (dysphagia) or painful (odynophagia). Studies have shown that GERD may contribute to asthma, chronic cough, and pulmonary fibrosis. Some people may also develop "Barrett's Esophagus", a precancerous condition which can lead to esophageal adenocarcinoma (the fastest growing cancer in terms of incidence in the US). Many pediatric diseases have been associated with GERD including asthma, otitis media, and even Sudden Infant Death Syndrome. Therefore, people suffering from GERD should be monitored closely.

Gastroesophageal Reflux (GERD) and esophageal motility disorders are two entities constituting a major problem in adult and pediatric gastroenterology. Diagnosis of these entities relies on a combination of modalities, most of which are invasive and unreliable. There is a great need for non-invasive diagnostic tool that can quantitatively evaluate both esophageal motility and reflux of gastric contents, and thus allow proper monitoring and guidance of the treatment offered to this large population of patients.

Innovation:

Direct detection and tracking of the swallowed bolus, "Bolus Propagation Esophagography" ("BPE"), is based upon recognition and tracking of the ultrasonic "signature" of the bolus as it propagates within the esophagus. Using this new methodology, which analyzes the gray-scale ultrasonic images, the user can quantify the bolus propagations characteristics: i.e. distance of propagation, its velocity, its acceleration and the time interval between each wave. Our novel BPE technology is based on a unique invented algorithm, which has been developed for this purpose. This BPE diagnostic test is the first true quantitative test, which is safe, simple, non-invasive, readily performed and repeatable. It can be performed during regular meals (especially important in the pediatric population) and does not require specific patient cooperation. The data obtained are similar to those obtained from MII technique although it does not require invasive insertion of a catheter. In addition, the BPE test may be repeated as necessary for follow-up studies or for the evaluation of medical treatment. A BPE prototype has already been developed and successfully tested in clinical settings. We strongly believe that this new methodology will become the test of choice for the assessment of esophageal dysfunction.

Indications/Applications:

GERD, Reflux Disease

Competitive Advantages:

Non-invasive and quantifiable.

Contact for more information:

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