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Dr. J.-C. Chiao

TI Grant Supports Additional Medical Monitoring Research

Feb 25, 2009

The development of an implantable, wireless sensor system monitoring gastroesophageal reflux has received a boost, thanks to a \$200,000 Texas Instruments grant to researchers at The University of Texas at Arlington and The University of Texas Southwestern Medical Center at Dallas. The system is called "BESTTM (Batteryless Endoluminal Sensing Telemeter) for GERD." Since the sensor implant does not require a battery, it is suitable for long-term implantation.

Gastroesophageal reflux disease (GERD) affects approximately 15 percent of the adult population in the United States and is one of the most prevalent clinical conditions afflicting the gastrointestinal tract. Heartburn is the most common symptom of GERD, but GERD can lead to complications such as esophageal cancer and lung damage. In the U.S., esophageal cancer accounts for 10,000 to 11,000 deaths per year.

The grant was awarded to Dr. J.-C. Chiao at UT Arlington and Drs. Ed Livingston (Surgery), Shou-Jiang Tang (Internal Medicine), Stuart Spechler (Internal Medicine and VA), Fred Tibbals (Biomedical Instrumentation Center) at UT Southwestern. The team has worked on the system for three years and raised a great interest in the digestive disease society with its additional functionality and accuracy compared to conventional diagnosis instruments. The system demonstrated high accuracy in detecting reflux episodes by sensing the impedance in the esophagus. With Texas Instruments' support, the team will make additional refinements to the system before submitting it to the Food and Drug Administration to secure approval to begin human trials.

The grant to accelerate the implantable, wireless sensor development was a result of Texas Instruments' leadership in radio frequency-based devices (RFIDs and RFICs) and its initiative to create uses for its electronic chips in medical applications. The team will be working with Texas Instruments' RFID team closely to make the system more compact and convenient to use.

Press Release

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