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NEWS

RSNA Press Release

New Stent Shields Cancer Patients from Acid Reflux

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OAK BROOK, Ill.—A simple but ingenious device positioned at the lower end of the esophagus using x-ray guidance can dramatically improve the quality of life for patients with terminal esophageal cancer, according to a study published in the November issue of the journal *Radiology.*

"Inoperable cancer of the esophagus transforms the simple act of swallowing into an extremely difficult or nearly impossible task," said Hans-Ulrich Laasch, MRCP, FRCR, a radiologist at South Manchester University Hospitals in Manchester, England, and principal author of the study.

This impairment of the ability to swallow, known as dysphagia, interferes with proper nutrition, robs patients of the social and emotional pleasures of a good meal, and further debilitates individuals in the final stages of this disease.

Like traditional stents—tubular structures that have been used successfully for years—the new stent safely restores patients' ability to eat, drink and swallow within days, according to Dr. Laasch. However, a recent modification now offers a major benefit that standard designs do not. The new device protects patients from acid reflux, a vexing condition in which the contents of the stomach return into the esophagus.

The anti-reflux stent features a three-inch hose of polyurethane that dangles into the stomach. Resembling a windsock, the aperture functions as a pressure-sensitive valve that closes when stomach pressure increases, such as when the patient reclines.

"Traditional stents let food go down, but they also let acid and food go back up through the cardia, the junction between the stomach and the esophagus," Dr. Laasch noted. "With this new stent, we can now control an unpleasant and potentially serious complication physicians have traditionally asked patients to accept as a trade off for being able to swallow, eat and drink."

For the prospective study, the first clinical research of the stent's effectiveness, 50 consecutive patients with inoperable tumors of the lower esophagus received stents across the cardia. Half the patients received an open stent, and half the patients received an

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anti-reflux stent. Patients who received the new anti-reflux stent experienced one-eighth the incidence of acid reflux compared to patients who received the standard open stent.

A team of radiologists placed the stents using fluoroscopy, a technique that projects an x-ray image onto a TV screen allowing real-time examination. The procedure involves the use of a contrast dye to allow the radiologist to see the tumor's precise location in the esophagus and to guide the stent into place. Patients received a topical anesthetic and were sedated but conscious during the procedure.

Both groups of patients experienced identical improvements in dysphagia, and most patients in both groups returned to a normal diet. However, all but one of the patients with open stents experienced reflux, while only 12 percent of patients with anti-reflux stents experienced reflux. In addition, 76 percent of patients in the open group required medication for reflux compared to only 4 percent of patients in the anti-reflux group.

The anti-reflux device's effectiveness has important implications for the care of patients with advanced esophageal cancer, Dr. Laasch said. "Reflux can lead to serious, potentially life-threatening complications, including pneumonia, if digestive material enters the lungs."

In addition, the fact that many patients with reflux must take medication to manage this condition places another mental and physical burden on individuals who are nearing the end of their lives. "Patients are reminded of their cancer every time they swallow a pill," Dr. Laasch said.

Approved for use in the United Kingdom since 2000, the anti-reflux stent has now been cleared by the Food and Drug Administration for use in the United States.

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"Effectiveness of Open versus Anti-reflux Stents for Palliation of Distal Esophageal Carcinoma and Prevention of Symptomatic Gastroesophageal Reflux." Collaborating with Dr. Laasch on this study were Angelina Marriott, EN, Lynne Wilbraham, RN, Sharon Tunnah, DCR, Ruth E. England, FRCPI, FRCR, and Derrick F. Martin, FRCP, FRCR.

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