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News

STS Press Release

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Diabetes Linked With Worse Long-Term Outcomes Following Heart Surgery *Increasing incidence of diabetes presents global clinical and economic challenges*

Chicago – Patients with diabetes mellitus have worse long-term outcomes and higher associated costs following coronary artery bypass grafting (CABG) surgery than patients without diabetes, according to a study in the June 2014 issue of *The Annals of Thoracic Surgery*.

Although the study was conducted at a single institution in Beijing, China, the increasing prevalence of diabetes is a growing problem worldwide that has many health care professionals concerned.

“In China, nearly 114 million adults (11.6%) have diabetes,” said lead study author Heng Zhang, MD, from Fuwai Hospital. “In the United States, the rate is nearly the same at 11.3% or about 25.6 million adults.”

Diabetes is a major cause of heart disease and stroke and is the 7th leading cause of death in the U.S., according to the National Institute of Diabetes and Digestive and Kidney Diseases. By 2030, 439 million people are expected to have diabetes worldwide.

Key Points

- Diabetic patients who undergo CABG surgery have worse long-term outcomes than non-diabetic patients.
- CABG surgery was also more expensive for diabetic patients compared with non-diabetics patients.
- The rising incidence of diabetes, combined with the significant incremental costs, has led to clinical and economic challenges for health care systems worldwide.

Dr. Zhang and colleagues analyzed outcomes from 9,240 patients who underwent isolated, primary elective CABG surgery at Fuwai Hospital between January 1999 and December 2008.

Diabetic patients were divided into three subgroups for analysis based on diabetes management—diet (375 patients), medication (1,826 patients), or insulin (481 patients).

The researchers found that with the standardized perioperative strategy for blood glucose control, the impact of diabetes on in-hospital clinical outcomes was limited, but long-term follow-up showed worse outcomes for patients whose diabetes was managed by medication or insulin.

The initial cost of CABG surgery was also similar among all patient groups, but diabetic patients accumulated higher costs at 2 years post-surgery, primarily because of rehospitalizations, additional medical procedures, and insulin and other medications.

“Based on the results of our study, we highly recommend an individualized treatment plan and a heart team approach for patients with diabetes who require CABG surgery,” said Dr. Zhang. “We also would like to compare the results of our study with results of future studies internationally so that we better understand how to care for this higher-risk patient population.”

New Management Strategies Needed

In an invited commentary in the same issue of *The Annals*, Michael E. Jessen, MD, from The University of Texas Southwestern Medical Center at Dallas, called the findings significant. “Dr. Zhang’s study raises the question of whether we as surgeons focus on the right factors in this often challenging group of patients,” said Dr. Jessen. “While the findings are perhaps not surprising, we are left with the problem of how to change our management strategies so that diabetic patients have improved clinical and economic outcomes.”

“As the incidence of diabetes continues to rise and the cost of health care is under increased scrutiny, these efforts should receive a high priority,” said Dr. Jessen. “The Zhang study serves as an important call to action for all involved in cardiovascular care. More work needs to be done to test management strategies, such as closely monitoring hemoglobin A1C values, that might reduce the adverse events and decrease costs of care in this patient population.”

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For a copy of the study or commentary contact Cassie McNulty at 312-202-5865 or cmcnulty@sts.org.

Founded in 1964, The Society of Thoracic Surgeons is a not-for-profit organization representing more than 6,700 cardiothoracic surgeons, researchers, and allied health care professionals worldwide who are dedicated to ensuring the best possible outcomes for surgeries of the heart, lung, and esophagus, as well as other surgical procedures within the chest. The Society’s mission is to enhance the ability of cardiothoracic surgeons to provide the highest quality patient care through education, research, and advocacy.

The Annals of Thoracic Surgery is the official journal of STS and the Southern Thoracic Surgical Association.