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News

STS Press Release

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Decreasing Need for Blood Transfusion During Aortic Valve Replacement Can Help Reduce Complications, Costs

Study suggests blood conservation guidelines should extend beyond bypass surgery

Chicago – Incorporating a blood conservation strategy (BCS) during aortic valve replacement (AVR) can reduce the likelihood of transfusion-related complications, as well as reduce blood-product utilization, according to a study in the January 2014 issue of *The Annals of Thoracic Surgery*.

Blood-product transfusions are often used during cardiac surgery to offset the morbidity and mortality associated with anemia. Cardiac operations utilize nearly 20% of the blood supply in the United States and worldwide, with up to 50% of cardiac surgery patients receiving blood products.

Researchers from NYU Langone Medical Center in New York City, led by David W. Yaffee, MD, and Eugene A. Grossi, MD, examined the impact of a BCS on patient outcomes following AVR.

"Implementation of blood conservation strategies can be safely completed for AVR patients while helping to limit unnecessary transfusion, avoiding transfusion-associated complications and decreasing costs," said Dr. Yaffee.

Key Points

- Use of two or more units of red blood cells in AVR surgery is shown to yield a higher incidence of major complications.
- A blood conservation strategy can be safely implemented for AVR patients without increasing mortality or morbidity.
- The authors suggest that STS/SCA blood conservation clinical practice guidelines should be extended to AVR patients.

The authors reviewed clinical and transfusion records of patients undergoing AVR before (391 patients) and after (387 patients) BCS implementation to determine if BCS had an impact on patient morbidity, mortality, or blood product utilization.

They found no difference in mortality or major complications between the two groups; however, major complications (renal failure, respiratory failure, sepsis, or death) occurred more frequently in patients

who received two or more units of red blood cells. Gastrointestinal complications, renal failure requiring dialysis, and respiratory failure were also more common among patients receiving two or more units of red blood cells.

The Society of Thoracic Surgeons (STS) and the Society of Cardiovascular Anesthesiologists (SCA) have released clinical practice guidelines on blood conservation; however the guidelines have been applied mainly to coronary artery bypass grafting surgery.

“Our results suggest that the Blood Conservation Clinical Practice Guidelines already developed by STS and SCA for coronary artery bypass patients can be safely extended to patients undergoing aortic valve surgery,” said Dr. Grossi. “While some patients do require transfusion for a safe operation, this study shows that we can limit transfusions without causing harm to the patient.”

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For a copy of the study, contact Cassie Brasseur at 312-202-5865 or cbrasseur@sts.org.