Multidisciplinary Team Approach Shows Improved Pulmonary Embolism Outcomes

SAN DIEGO, CALIF. (April 27, 2015) — When specialists gather to confer and agree on treatment of patients with high-risk pulmonary embolism, patients are treated more aggressively and have better outcomes, according to research to be presented at the SCAI 2015 Scientific Sessions.

Pulmonary embolism refers to blood clots that travel through the bloodstream and the heart and become lodged in the pulmonary circulation, where they can impair oxygenation and reduce cardiac output. As many as 900,000 people in the U.S. suffer a pulmonary embolism every year, according to the Centers for Disease Control and Prevention. Of these, 60,000 to 100,000 patients die from the condition, with about one-quarter of patients suffering sudden death.

The recent death of 52-year-old former professional basketball player Jerome Kersey as the result of pulmonary embolism, coupled with the diagnosis of clots that sidelined two current National Basketball Association players, has raised awareness about the condition and the challenges in treating it.

“Treating patients with pulmonary embolism is complicated. Part of the complexity in the management of pulmonary embolisms is due to the wide spectrum of clinical presentations. Physicians must decide among multiple treatment options but lack a standard approach and clear guidelines for higher-risk patients,” said Neal Bhatia, MD, of Emory University School of Medicine in Atlanta.

One recommended therapy for patients whose condition is unstable is cautious treatment with clot-dissolving drugs called thrombolytics, although this is actually used in only a minority of patients in clinical practice. The actual treatment plan typically varies based on the treating physician’s specialty and regional differences. At Emory University Hospital Midtown, a pulmonary embolism response service (PERS) comprised of cardiologists, pulmonologists, radiologists and cardiothoracic surgeons was established to improve outcomes among this patient population. The 24-hour service responds to calls from clinicians, mostly emergency physicians and hospitalists, about patients presenting with pulmonary embolism.

The PERS team reviews each case and discusses treatment options for patients considered to be at high risk for morbidity or mortality before reaching consensus. The PERS team also developed treatment algorithms, including systemic thrombolysis, catheter-directed thrombolysis, surgery and inferior vena cava filters (implantable devices designed to capture embolic clot).

Between December 2012 and July 2014, the PERS team entered a total of 143 patients in a prospective registry and tracked their outcomes for 6 months. They treated higher-risk patients who were on the borderline of decompensating or whose condition was deteriorating with more aggressive treatment—either catheter-directed or systemic thrombolytics.
“Most of these patients may not have been treated as aggressively as we did because the guidelines are unclear and controversial,” said Dr. Bhatia.

Dr. Bhatia reviewed outcomes at 6 months and found that the patients who received the more aggressive therapies were less likely to have died or suffered a recurrent pulmonary embolism than those treated with the standard treatment. Patients who received aggressive treatments had improved in-hospital mortality (8% vs. 15%), recurrent pulmonary embolism (4% vs. 10%) and 6-month mortality (12% vs. 28%).

“This analysis demonstrates the validity of collaborating with multiple specialties to improve diagnosis and outcomes for patients with pulmonary embolism,” said Dr. Bhatia. “Such a team approach could change the odds for patients afflicted with this deadly condition.”

Dr. Bhatia reports no relevant conflicts of interest.

Dr. Bhatia will be available at the SCAI 2015 ePosters Bar to discuss the study “Outcome of Implementation of a Multidisciplinary Pulmonary Embolism Response Service (PERS)” on Thursday, May 7, at 2:40 p.m. (Pacific Time).

The Peripheral educational track at SCAI 2015 will feature “Pulmonary Embolism: The Untapped Frontier for the Cardiologist,” moderated by SCAI 2015 Program Committee Chair Michael R. Jaff, DO, FSCAI, and Geno Merli, MD.

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