

Program Book Addendum

STSA 62nd Annual Meeting Program Changes

Unless otherwise noted in this addendum or verbally by speakers, participants have no relevant financial or regulatory relationships to disclose. Participants listed with a **D** next to their name have indicated that they do have a financial and/or regulatory disclosure and that disclosure is listed immediately below their name.

PRESENTER CHANGES

SURGICAL MOTION PICTURES (Wednesday | Nov. 4 | 8:45 pm–9:00 pm)

5V. When the Bidirectional Glenn Is an Unfavorable Option: Primary Extracardiac Inferior Cavopulmonary Connection as an Alternative Palliation: *Jorge Salazar, University of Mississippi, Jackson, MS

SECOND SCIENTIFIC SESSION (Friday | Nov. 6 | 9:00 am–9:15 am)

15. Outcomes of Re-intervention on the Left Ventricular Outflow Tract following Ross Procedure: Ram Kumar Subramanyan, University of Southern California Children's Hospital, Los Angeles, CA

THIRD SCIENTIFIC SESSION A Adult Cardiac Breakout (Friday | Nov. 6 | 3:00 pm–3:15 pm)

23. Alternative Access TAVR Is Safe at Higher Society of Thoracic Surgeons Predicted Risk of Mortality Scores: Jessica Forcillo, Emory University, Atlanta, GA

FOURTH SCIENTIFIC SESSION Adult Cardiac Breakout (Saturday | Nov. 7 | 8:00 am–8:15 am)

49. Intensive Glucose Management in Non-Diabetics Improves Resource Utilization in Patients with Perioperative Hyperglycemia Undergoing CABG: A Prospective Randomized Trial: Lillian Tsai, Emory University, Atlanta GA

FOURTH SCIENTIFIC SESSION Congenital Breakout (Saturday | Nov. 7 | 8:45 am–9:00 am)

60. Intentional Delay versus Usual Management for Low Birth Weight Newborns With Congenital Heart Disease: Aaron Lemieux, University of California, San Diego, San Diego, CA

DISCUSSANT CHANGES

FIRST SCIENTIFIC SESSION (Thursday | Nov. 5 | 2:45 pm–3:00 pm)

2. Updated Outcomes for Coronary Reoperations: A 20-year Experience

Discussant: *V. Seenu Reddy, TriStar Cardiovascular Surgery, Nashville, TN

BASIC SCIENCE FORUM (Friday | Nov. 6 | 7:00 am–7:08 am)

1B. Dendrimer Nanotherapy for Brain Injury in a Canine Model of Hypothermic Circulatory Arrest

Discussant: *Jorge Salazar, University of Mississippi, Jackson, MS

THIRD SCIENTIFIC SESSION A Adult Cardiac Breakout (Friday | Nov. 6 | 3:15 pm–3:30 pm)

24. Reinforcing Atrial P2 Stitch May Reduce Dehiscence in Undersized Mitral Annuloplasty

Discussant: D*Vinod Thourani, Emory University, Atlanta, GA; **Discussant Disclosure:** Principal Investigator: Boston Scientific, Medtronic, Inc., Claret Medical; Ownership Interest: Apica Cardiovascular; Advisory Board: Edwards Life Sciences, Medtronic, Inc., Abbott Medical, Sorin

DISCLOSURE UPDATES

7. Cardiac Transplantation for Adults With Congenital Heart Disease: An Analysis of the UNOS Registry

COMMERCIAL DISCLOSURE: Jeffery Teuteberg: Advisory Board: Heartware, Abiomed, Thoratec-CEC, Sunshine heart- DSMB

RESIDENT MODERATORS

SURGICAL MOTION PICTURES (Wednesday | Nov. 4 | 7:45 pm–10:00 pm)

Resident Moderator: *Joseph Monfre, University of Texas Health Science Center at San Antonio

FIRST SCIENTIFIC SESSION (Thursday | Nov. 5 | 2:30 pm–5:00 pm)

Resident Moderator: *Damien LaPar, University of Virginia, Charlottesville, VA

BASIC SCIENCE FORUM (Friday | Nov. 6 | 7:00 am–7:50 am)

Resident Moderator: *Erin Schumer, University of Louisville, Louisville, KY

SECOND SCIENTIFIC SESSION (Friday | Nov. 6 | 8:00 am–10:00 am)

Resident Moderator: *Michael Bolanos, University of Kentucky, Lexington, KY

THIRD SCIENTIFIC SESSION A Congenital Breakout (Friday | Nov. 6 | 2:00 pm–3:30 pm)

Resident Moderator: William Gibson, University of Kansas School of Medicine, Kansas City, KS

RECOGNITION & MANAGEMENT OF CT SURGICAL MISADVENTURES (Sat. | Nov. 7 | 9:50 am–10:50 am)

Resident Moderator: Mansi Shah, University of North Carolina, Chapel Hill, NC

Program Book Addendum

Special Thanks

Medtronic, Inc. *Platinum Supporter*
Mallinckrodt Pharmaceuticals *Silver Supporter*

ADDITIONAL EXHIBITORS

Abbott Vascular

Booth: 118

3200 Lakeside Drive, Santa Clara, CA 95054

Abbott Vascular's MitraClip system is designed to treat non surgical patients with severe degenerative MR and is currently enrolling the CoApt trial for potential future functional MR FDA approval.

Cook Medical

Booth: 119

750 Daniels Way, Bloomington, IN 47402

Since 1963, Cook Medical has worked with physicians to develop minimally invasive technologies. Today we offer medical devices and biologic materials to help surgeons deliver better patient outcomes.

Genesee BioMedcal Inc

Booth: 219

700 W Mississippi Ave #D5, Denver, CO 80223

Design Beyond Standard. Genesee BioMedical, Inc. provides devices for cardiothoracic surgery including a bovine pericardium tissue patch, sternal/thoracic retractors for MICS, TAVI and valve surgery and aortic repair tools. www.geneseebiomedical.com

LifeNet Health

Booth: 221

1864 Concert Dr, Virginia Beach, VA 23453

LifeNet Health helps save lives, restore health, and give hope to thousands of patients each year. We are the world's most trusted provider of transplant solutions, from organ procurement to new innovations in bio-implant technologies and cellular therapies.

Maquet Medical Systems, USA

Booth: 218

45 Barbour Pond Drive, Wayne, NJ 07470

MAQUET Medical Systems, USA is a market leader offering a comprehensive portfolio of products designed for use in the Hybrid OR, ICU, Cath Lab and Cardiovascular Therapies.

Medela, Inc.

Booth: 116

1101 Corporate Dr, McHenry, IL 60050

Medela optimizes patient care through pioneering and intelligent mobile digital chest drainage and NPWT. Thopaz has been clinically shown to reduce chest tube and airleak duration as well as ALOS.

UF Health Gainesville

Booth: 220

19423 NW 164th Rd, High Springs, FL 32643

University of Florida Health Gainesville is the Southeast's most comprehensive academic health center, which encompasses our hospitals, physician practices, colleges, centers, institutes, programs and services across northeast and north-central Florida.

Program Book Addendum

62nd Annual Meeting Scientific Paper Abstract Corrections

Corrected objectives, methods, results, and conclusions for abstracts #9 and #14 are as follows. All other abstract information as published in the Program Book is accurate. Download the complete, corrected Program Book at www.stsa.org.

9. The Influence of Pulmonary Hypertension on Outcomes After Conventional and Transcatheter Aortic Valve Replacement in a Population Based Analysis

Presenting Author: *Himanshu J. Patel, University of Michigan Cardiovascular Center, Ann Arbor, MI*

Objectives: Pulmonary hypertension (PH) represents an important risk factor for adverse outcomes after AVR. We sought to evaluate its effects in a population based analysis of conventional (SAVR) and transcatheter AVR (TAVR).

Methods: Using a statewide quality collaborative database (2008-2014), 10547 patients (mean age 70.7 ± 12.0 yrs) underwent SAVR \pm CABG (9565, 90.7%) or TAVR (982, 9.3%). PH was defined as mild [PA mean (PAm) 25-34 or PA systolic (PAs) 35-44 mmHg], moderate (PAm 35-44 or PAs 45-59 mmHg) or severe (PAm ≥ 45 or PAs ≥ 60 mmHg). Given baseline differences between groups (Table 1), a separate analysis of outcomes was conducted for each treatment group.

Results: In the SAVR group, degree of PH included none (63.6%), mild (21.0%), moderate (10.5%) or severe (4.9%). 30-day mortality progressively increased for each grade of PH (mild 3.5% OR 1.37, moderate 5.0% OR 2.02, and severe 5.8% OR 3.03, all $p < 0.05$ vs. normal 2.8%). Rates of renal failure (moderate 6.1% OR 1.79, and severe 6.9% OR 2.11, all $p < 0.05$ vs. normal 3.5%) and prolonged ventilation (moderate 19.1% OR 1.71, and severe 27.7% OR 2.77, all $p < 0.05$ vs. normal 12.6%) were only affected by the presence of moderate or severe PH. In the TAVR group, degree of PH included none (53.5%), mild (14.8%), moderate (18.2%) or severe (13.5%). In contrast to the SAVR group, the presence of any degree of PH in TAVR patients did not independently influence rates of early mortality ($p = 0.69$), renal failure ($p = 0.96$) or prolonged ventilation ($p = 0.72$).

Conclusions: Though SAVR can be safely performed in patients with pulmonary hypertension, progressive degrees of PH can adversely impact early outcomes. In contrast, PH does not appear to influence early TAVR outcomes suggesting that its presence is an important consideration in selecting the optimal approach for treating aortic valve disease.

Reference page 76 for additional abstract information.

14. Impact of Sublobar Resection on Pulmonary Function: Long-term Results From ACOSOG Z4032 (Alliance), A Randomized Phase III Trial

Presenting Author: *Michael Kent, Beth Israel Deaconess Hospital, Boston, MA*

Objectives: Sublobar resection (SR) in high-risk patients may result in long-term decrease in pulmonary function (PFT). We previously reported 3-month PFT outcomes in the randomized phase III study (Z4032) that compared SR alone to SR with brachytherapy (SRB). Lower lobe SR was the only factor associated with a decline in FEV1%. We now report on long-term PFT after SR.

Methods: PFT was measured at baseline, and months (M) 3, 12 and 24. A $\geq 10\%$ decline from baseline in FEV% or DLCO% was deemed clinically meaningful. The impact of study arm, tumor location, size, approach (VATS/thoracotomy), and SR type on PFT at 3, 12 and 24 M were assessed using a Wilcoxon rank sum test. A generalized estimating equation (GEE) model was used to assess impact of each factor on longitudinal PFT data from all 4 time-points.

Results: A total of 212 patients were available for per-protocol analysis. Complete PFT data at all time-points was available in 69 patients. There were no differences in baseline characteristics between patients with complete/incomplete PFT data. No significant differences were observed in PFT between SR and SRB, thus the study arms were combined for further analyses. A $\geq 10\%$ decline ($p = 0.016$) in FEV1% was demonstrated for lower lobe (7/25; 28%) versus other lobe (3/44; 6.8%) resections at M3, but was not seen at M12 or M24. A $\geq 10\%$ decline ($p = 0.047$) in DLCO% was seen for thoracotomy at M3 (10/25; 40%) versus VATS (8/44; 18.2%), but was not seen at M12 or M24. Patients with tumor size > 2 cm had uniformly lower DLCO% at all-time points compared to patients with tumor size ≤ 2 cm (GEE model $p = 0.09$) (see figure 1), but otherwise none of the factors, including brachytherapy, impacted outcomes.

Conclusions: Clinically meaningful declines in PFT occurred after lower lobe resection and after thoracotomy at 3 months, but subsequently recovered. Our study demonstrates that SR does not result in sustained decreased pulmonary function in high-risk operable patients.

Reference page 98 for additional abstract information.

Program Book Addendum

62nd Annual Meeting Scientific Paper Abstract Corrections

Corrected objectives, methods, results, and conclusions for abstracts #56 and #71 are as follows. All other abstract information as published in the Program Book is accurate. Download the complete, corrected Program Book at www.stsa.org

56. Establishing a General Thoracic Surgery Subspecialty Program Improves Early and Long-term Outcomes in Patients Undergoing Lobectomy for Lung Cancer

Presenting Author: Mitchell Magee, *Medical City Dallas Hospital, Dallas, TX*

Objectives: Disparate factors impact outcomes after lobectomy for lung cancer. Improved early outcomes may be achieved at the expense of long-term survival due to inadequate staging. A dedicated general thoracic surgery program with a focus on minimally invasive surgery (MIS) and thoracic oncology was established in 2008. We hypothesized that a focused thoracic surgery program would improve short-term outcomes without sacrificing long-term survival.

Methods: Patients entered into the hospital Cancer Registry have survival status updated annually through correspondence with patients, physicians, and searches of the Social Security Death Index and obituaries. The registry was queried for all patients undergoing lobectomy for lung cancer, 2002-2013, and divided into 2 treatment groups, "Before" and "After," based on surgery date relative to 2008. Chi-squared statistics were used for proportions, t-tests for continuous variables and a non-parametric test for length of stay. Kaplan-Meier survival curves were constructed using time between surgery and death or last follow-up.

Results: 280 patients (126 "Before," 152 "After,") who had lobectomy for lung cancer were identified in the registry. Data included surgical approach (% VATS), pathologic stage, number of lymph nodes and stations sampled, length of stay (LOS) following surgery, and survival. Patients having lobectomy "After" had significantly more VATS procedures, decreased LOS, greater mean total lymph nodes and nodal stations sampled, similar 1 year survival, and improved 3 year (Table 1) and overall survival (Figure 1).

Conclusions: Establishing a focused general thoracic surgery subspecialty program, with emphasis on MIS and thoracic oncology, improved short-term outcomes with increased VATS utilization and decreased LOS. Long-term survival was also improved, likely attributed to better lymph node assessment, more accurate pathologic staging, and more appropriate stage-based therapy.

Reference page 182 for additional abstract information.

71. A Systematic Approach to Prolonged Air Leak Reduction Following Pulmonary Resection

Presenting Author: Nicholas Drahush, *University of Tennessee College of Medicine*

Objectives: Prolonged air leaks following pulmonary resection lead to extended need for chest tubes, increased hospital length of stay (LOS), greater healthcare costs and are the leading cause of post-operative pulmonary morbidity. A systematic approach to air leak reduction (STAR) following lung resection was developed.

Methods: A retrospective review was conducted of a prospective database from one surgeon who had adopted STAR as standard of care. STAR incorporates three factors independently identified as decreasing air leaks; fissureless operative technique, staple line buttressing and protocol-driven chest tube management. All patients who underwent STAR for pulmonary resection were included in this study. Demographics, comorbidities, hospital LOS, post-operative events, prolonged air leak (> 5 days) and 30 day mortality were compared against a national benchmark database from the Society of Thoracic Surgeons (STS).

Results: From June 2010 through December 2014, 462 patients underwent STAR for pulmonary resection. 13 patients had multiple resections giving a total of 475 lung resections: 262 (55.2%) lobectomies, 167 (35.2%) wedge resections and 46 (9.7%) segmentectomies. Mean LOS was 3.4 ± 3.3 days and mean time to chest tube removal was 3.2 ± 3.7 days. Notably, on post-operative day one, 41.1% of patients (190/462) had their chest tube removed and 26.8% (124/462) were discharged home. Additionally, no patients were re-admitted due to air leak related events. 11% of patients (51/462) were sent home with chest tubes still in place. 30 day mortality was 2.8% (13/462).

Conclusions: STAR for pulmonary resection, significantly for lobectomies, shows decreased post-operative prolonged air leaks when compared to the STS national database. This approach did not lead to air leak related hospital re-admissions nor compromise post-operative mortality. STAR is an innovative strategy that has the potential to improve post-operative pulmonary resection outcomes.

Reference page 212 for additional abstract information.