



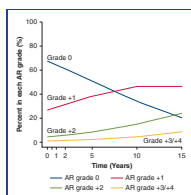
Vol. 160, No. 6, December 2020

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Adult Articles in AATS Journals

1415 Adult

Adult: Aorta



1421 **The fate of residual aortic regurgitation after ascending aorta replacement in type A aortic dissection**



Do Jung Kim, MD, Sak Lee, MD, PhD, Seung Hyun Lee, MD, PhD, Young-Nam Youn, MD, PhD, Byung-Chul Chang, MD, PhD, Kyung-Jong Yoo, MD, PhD, and Hyun-Chel Joo, MD, PhD, Suwon, Seoul, and Seongnam, South Korea

Higher preoperative and postoperative AR grades and high false to true lumen ratio increased the significant AR risk in patients undergoing AAR with valve/root preservation for type A aortic dissection.

This article has an associated webcast.

1431 **Commentary:** Moving the goalposts

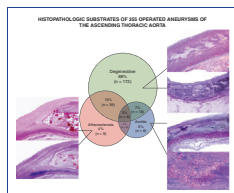
Dawn S. Hui, MD, San Antonio, Tex

Although proximal reoperations after acute type A dissection repair have been characterized as rare, patients at risk for midterm valve dysfunction might be considered for a more aggressive approach.

1432 **Commentary:** Progressive aortic valve regurgitation after replacement of the dissected ascending aorta: An unsolved dilemma

Oliver J. Liakopoulos, MD, and Yeong-Hoon Choi, MD, Cologne and Bad Nauheim, Germany

This single-center retrospective analysis provides new insights of long-term durability of ascending aortic replacement in patients presenting with type A acute aortic dissection.



1434 **The complex interplay among atherosclerosis, inflammation, and degeneration in ascending thoracic aortic aneurysms**



Ornella Leone, MD, Anna Corsini, MD, Davide Pacini, MD, Barbara Corti, MD, Massimiliano Lorenzini, MD, Vera Laus, MD, Alberto Foà, MD, Maria Letizia Bacchi Reggiani, MStat, Luca Di Marco, MD, and Claudio Rapezzi, MD, Bologna, Italy, and London, United Kingdom

Degenerative histopathology is the most frequent substrate in ascending thoracic aortic aneurysms, but atherosclerosis and inflammation contribute significantly to the development of chronic aortic thoracic disease.

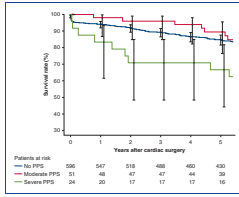
1444 **Commentary:** Under pressure: The role of inflammation in aortic aneurysm pathophysiology

Vivek Patel, MD, and Ravi K. Ghanta, MD, Houston, Tex

The pathophysiology of aortic aneurysms is influenced by multiple processes, including hemodynamic stress, aortic injury, chronic inflammation, genetic abnormalities, and individual comorbidities.

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Adult: Aortic Valve



1446 Adverse events and survival with postpericardiotomy syndrome after surgical aortic valve replacement



Joonas Lehto, MD, PhD, Jarmo Gunn, MD, PhD, Rikhard Björn, MD, Markus Malmberg, MD, PhD, K. E. Juhani Airaksinen, MD, PhD, Ville Kytö, MD, PhD, MSocSc, Tuomo Nieminen, MD, PhD, Juha E. K. Hartikainen, MD, PhD, Fausto Biancari, MD, PhD, and Tuomas O. Kiviniemi, MD, PhD, FESC, Turku, Helsinki, Lappeenranta, Kuopio, and Oulu, Finland, and Boston, Mass

Patients with severe PPS were at increased risk for mortality. A transient increased risk of new-onset AF was observed, but PPS had no effect on the occurrence of cerebrovascular events or major bleeds.

1457 Commentary: Postpericardiotomy syndrome remains an enigma

Kevin L. Greason, MD, Rochester, Minn

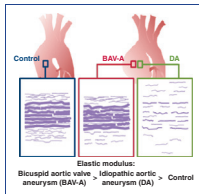
Postpericardiotomy syndrome occurs in about 10% of patients after isolated surgical aortic valve replacement. The syndrome may put patients at increased risk of long-term mortality.

1458 Commentary: Postpericardial syndrome after cardiac surgery: Is it really benign?

Suk Jung Choo, MD, PhD, Seoul, Korea

PPS is generally regarded as a benign condition, but because severe PPS may increase mortality risk, patients should be treated for both the condition itself and to prevent disease progression.

Adult: Aortic Valve: Basic Science



e239 Bicuspid valve aortopathy is associated with distinct patterns of matrix degradation



Ya Hua Chim, PhD, Hannah A. Davies, PhD, David Mason, PhD, Omar Nawaytou, MD, Mark Field, MD, Jillian Madine, PhD, and Riaz Akhtar, PhD, Liverpool, United Kingdom

Bicuspid aortic valve aneurysm (BAV-A) patients display a stiffer aortic wall relative to idiopathic aortic aneurysm (IA) patients. This is related to elastin microstructure rather than elastin level.

e259 Commentary: Can we move beyond aortic size, using real-time analysis of aortic tissue, to more precisely guide therapy for patients with bicuspid aortic valves?

Stephen H. McKellar, MD, MSc, Salt Lake City, Utah

New technologies can help guide aortic therapies for patients with bicuspid aortic valves.

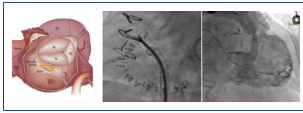
e261 Commentary: Aortic aneurysms are not created equal

Vikram Sood, MD, and Ming-Sing Si, MD, Ann Arbor, Mich

A comparison of aneurysms of differing etiologies reveals microstructural differences.

The Journal of Thoracic and Cardiovascular Surgery (ISSN 0022-5223) is published monthly by Elsevier Inc., 230 Park Avenue, Suite 800, New York, NY 10169-0901, USA. Business Office: 1600 John F. Kennedy Blvd, Suite 1800, Philadelphia, PA 19103-2899, USA. Editorial Office: 230 Park Avenue, Suite 800, New York, NY 10169-0901, USA. Customer Service Office: 6277 Sea Harbor Drive, Orlando, FL 32887-4800, USA. Periodicals postage paid at New York, NY, and additional mailing offices. POSTMASTER: Send address changes to Elsevier, Journal Returns, 1799 Highway 50 East, Linn, MO 65051, USA.

Adult: Tricuspid Valve: Evolving Technology: Invited Expert Opinions



1460 Emerging transcatheter options for tricuspid regurgitation: Many shades of gray



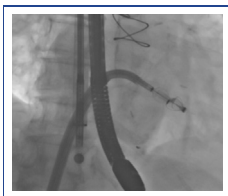
Vinayak Bapat, MBBS, MS, MCh, DNB (Surg), DNB (Card Surg), FCRSEd, FRCSCTh, and Gilbert H. L. Tang, MD, MSc, MBA, New York, NY

Transcatheter options are being explored as an option to treat severe TR. Although early studies have shown some promise, considerable hurdles remain with respect to patient selection, imaging, procedure, and data interpretation.

1465 **Commentary:** Transcatheter tricuspid valve interventions for treating isolated tricuspid regurgitation: Toward a new gold standard?

Guillem Muntané-Carol, MD, and Josep Rodés-Cabau, MD, Quebec City, Quebec, Canada

This review adds a new piece of work on TTVI. Promising early and midterm data have been reported. The validation of these findings may establish TTVI as an alternative to surgery in TR patients.



1467 Transcatheter tricuspid valve repair: Bringing the forgotten valve into the spotlight



Marissa Donatelle, MD, and Gorav Ailawadi, MD, MBA, Charlottesville, Va

The field of transcatheter tricuspid valve repair is rapidly growing. We examined the current state of transcatheter tricuspid repair as an isolated intervention, as well as in combination.

1474 **Commentary:** Tricuspid: The frustrating and unloved valve

Patrick M. McCarthy, MD, Chicago, Ill

The tricuspid valve was ignored for years, but this has changed. It is the hardest valve to treat successfully, however, with many anatomic and physiologic challenges for evolving therapies.

1476 **Commentary:** Structural solutions for isolated, severe, symptomatic tricuspid regurgitation are eagerly awaited

Ramesh Daggubati, MD, and Harold G. Roberts, Jr, MD, Morgantown, WV

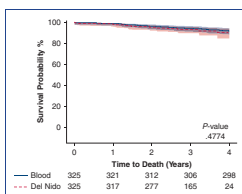
Effective, durable, structural solutions for tricuspid regurgitation could potentially save patients from an inherently high-risk cardiac surgical procedure.

1477 **Commentary:** The forgotten valve no longer: But what about the intervention?

Vivek Rao, MD, PhD, Toronto, Ontario, Canada

Percutaneous tricuspid valve therapies will result in greater referrals of patients for heart team assessment. Surgeons should maintain an active role in decision making for this patient population.

Adult: Coronary



1479 Del Nido cardioplegia in isolated adult coronary artery bypass surgery



Tomasz A. Timek, MD, PhD, Tyler Beute, BS, Justin A. Robinson, BS, Daniel Zalizadeh, MD, Regina Mater, MD, Jessica L. Parker, MS, Matthew Lypka, MPH, and Charles L. Willekes, MD, Grand Rapids, Mich

Del Nido cardioplegia provided noninferior myocardial protection and clinical outcomes to blood cardioplegia in routine and greater-risk isolated coronary artery bypass patients with relatively short aortic crossclamp times.

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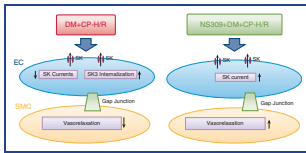
- 1486** **Commentary:** Easier is not always better than better
Jennifer S. Lawton, MD, Baltimore, Md

Adoption of del Nido cardioplegia driven by surgeon convenience may be easier, but may not be better or appropriate for all patients and surgeons.

- 1488** **Commentary:** Myocardial protection is a process, not an event
Nathaniel B. Langer, MD, MSc, and Gus J. Vlahakes, MD, Boston, Mass

Myocardial protection is a process, not an event.

Adult: Coronary: Basic Science



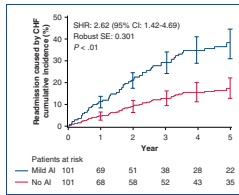
- e263** **Coronary endothelial dysfunction prevented by small-conductance calcium-activated potassium channel activator in mice and patients with diabetes**

Zhiqi Zhang, MD, Guangbin Shi, MD, Yuhong Liu, MD, Hang Xing, MD, MSc, Anatoli Y. Kabakov, PhD, Amy S. Zhao, Vahid Agbortoko, BS, Justin Kim, Arun K. Singh, MD, Gideon Koren, MD, Elizabeth O. Harrington, PhD, Frank W. Sellke, MD, and Jun Feng, MD, PhD, Providence, RI



Inclusion of SK channel activator NS309 in cardioplegia protects mouse and human coronary microvasculature against CP-H/R injury, but this beneficial effect is significantly diminished in the diabetic vasculature.

Adult: Mechanical Circulatory Support



- 1490** **The impact of uncorrected mild aortic insufficiency at the time of left ventricular assist device implantation**

Yuki Tanaka, MD, Tomohiro Nakajima, MD, PhD, Irene Fischer, MPH, Fei Wan, PhD, Kunal Kotkar, MD, Marc R. Moon, MD, Ralph J. Damiano, Jr, MD, Muhammad F. Masood, MD, and Akinobu Itoh, MD, PhD, Saint Louis, Mo



Uncorrected mild AI with ventricular assist device implant was associated with later moderate or severe AI, worse NYHA status, and more incidence of heart failure.



This article has an associated discussion and webcast.

- 1501** **Commentary:** The call of the mild: Aortic insufficiency in patients with left ventricular assist devices

Amit Iyengar, MD, MS, and Pavan Atluri, MD, Philadelphia, Pa

In a matched retrospective cohort study, the current authors have demonstrated that uncorrected mild aortic insufficiency was associated with worsened functional status after LVAD implantation.

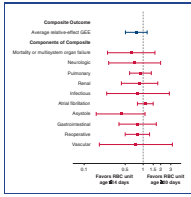
- 1502** **Commentary:** Stop the leak before it floods
Bryan A. Whitson, MD, PhD, Columbus, Ohio

Tracking the influence of seemingly minor items and continuously reassessing our surgical approaches, mantras, and outcomes are what enable us to evolve our techniques and improve outcomes for our patients.

- 1503** **Commentary:** Two roads diverged in a yellow wood...
Asvin M. Ganapathi, MD, and Nahush A. Mokadam, MD, Columbus, Ohio

The management of mild aortic insufficiency at the time of LVAD implantation remains controversial. A randomized trial will be required to determine the best treatment strategy.

Adult: Perioperative Management



1505 Effect of red blood cell storage duration on major postoperative complications in cardiac surgery: A randomized trial



Colleen G. Koch, MD, MS, MBA, Daniel I. Sessler, MD, Andra E. Duncan, MD, Edward J. Mascha, PhD, Liang Li, PhD, Dongsheng Yang, MS, Priscilla Figueroa, MD, Joseph F. Sabik III, MD, Tomislav Mihaljevic, MD, Lars G. Svensson, MD, PhD, and Eugene H. Blackstone, MD, Baltimore, Md; Cleveland, Ohio; and Houston, Tex



This randomized trial, which was stopped owing to enrollment constraints, supports neither the efficacy nor the futility of transfusing younger versus older red blood cells. The effect of storage nearer the end of shelf life remains untested.

1515 **Commentary:** Is there a “storage lesion” in red cells that affects outcomes in transfused cardiac surgical patients? The short answers are “maybe there is” and “maybe it doesn’t matter”

Victor A. Ferraris, MD, PhD, Lexington, Ky

Questions remain about the use of aged blood products and the so-called “storage lesion” of transfused red cells.

1517 **Commentary:** When a trial ends up in nowhere

Emilia Bagiella, PhD, New York, NY

A true negative trial is one that is unable to answer the scientific question for which it was designed.

Adult: Perioperative Management: Invited Expert Opinion



1519 Results of the PARAMEDIC-2 trial and how they relate to resuscitation after cardiac surgery



Joel Dunning, MD, PhD, and Jason Trevis, MD, Middlesbrough, United Kingdom

The PARAMEDIC-2 Trial is a randomized controlled trial of 8014 patients who experienced an out-of-hospital cardiac arrest. We discuss its results and their application to the Society of Thoracic Surgeons protocol for the management of patients who arrest after cardiac surgery.

1523 **Commentary:** Epinephrine’s meager benefit in resuscitation illustrates the need for shrewd bedside judgment when resuscitating cardiothoracic surgery patients

Robin Varghese, MD, MS, FRCSC, and Parth Patel, BA, New York, NY

In a double-blind, placebo-controlled trial, the use of epinephrine during out-of-hospital cardiac arrest improved survival to 30 days but did not improve survival to discharge with a favorable neurological outcome.

1524 **Commentary:** To epi or not to epi—that is the question

Nabeel H. Gul, MD, and Subhasis Chatterjee, MD, Houston, Tex

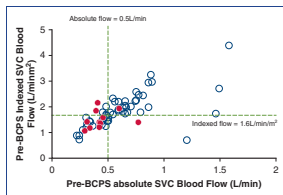
Standard resuscitation measures after postcardiotomy cardiac arrest require thoughtful consideration. Epinephrine should be used cautiously but not abandoned.

Congenital Articles in AATS Journals

1526 Congenital

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Congenital: Single Ventricle



1529 Low preoperative superior vena cava blood flow predicts bidirectional cavopulmonary shunt failure



Shuhua Luo, MD, PhD, Maruti Haranal, M Ch, Mimi Xiaoming Deng, BScH, Jaymie Varenbut, BScH, Kyle Runeckles, MSc, Chun-Po Steve Fan, PhD, Mike Seed, MD, Glen S. Van Arsdell, MD, and Osami Honjo, MD, PhD, Toronto, Ontario, Canada; Chengdu, China; and Los Angeles, Calif

Preoperative SVC blood flow predicted post BCPS physiology and clinical outcome better than other anatomic and physiologic markers. Lower SVC blood flow was associated with worse BCPS takedown-free survival.

This article has an associated discussion and webcast.

1541 **Commentary:** Vis a tergo—a push from behind—is of paramount importance for the optimal function of a bidirectional cavopulmonary shunt

Thierry Carrel, MD, Bern, Switzerland

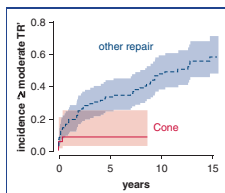
Vis a tergo is a prerequisite for the optimal function of a bidirectional cavopulmonary shunt.

1543 **Commentary:** When is a bidirectional cavopulmonary shunt a bad idea?

John J. Lamberti, MD, Stanford, Calif

Proceed with caution when cardiac magnetic resonance imaging–derived pre–bidirectional cavopulmonary shunt superior vena cava blood flow is low. The “conventional” staging sequence of palliation for a functional single ventricle may be inappropriate in this setting.

Congenital: Ebstein’s Anomaly



1545 Cone versus conventional repair for Ebstein’s anomaly



Melchior Burri, MD, Karim Mrad Agua, MD, Julie Cleuziou, MD, PhD, Elisabeth Beran, MD, Nicole Nagdyman, MD, PhD, Andreas Kühn, MD, PhD, Johannes Amadeus Ziegelmüller, MD, Peter Ewert, MD, PhD, Jose Pedro Da Silva, MD, and Rüdiger Lange, MD, PhD, Munich, Germany, and Pittsburgh, Pa

Cone repair provided a higher rate of successful repair and a lower incidence of moderate or greater recurrent insufficiency compared with former repair procedures.

1554 **Commentary:** Is the cone a superior form?

Emile Bacha, MD, FACS, New York, NY

The cone procedure has been confirmed to be superior to other repairs for Ebstein’s anomaly. It is a difficult operation that is rarely done. Effect on right ventricle function and long-term survival remains unknown.

1556 **Commentary:** Aristotle, the truth, and cone reconstruction

David M. Overman, MD, Minneapolis, Minn

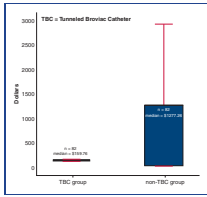
Emergence of the cone repair is a milestone in the surgical treatment of Ebstein anomaly. Yet fulfillment of its promise requires more accumulated experience and long-term outcome data.

1557 **Commentary:** Should the cone repair be the only option to consider for all patients with Ebstein’s anomaly? Definitely not

David Kalfa, MD, PhD, New York, NY

The cone repair dramatically improved the short-term and mid-term outcomes for patients with Ebstein’s anomaly, but a lot still needs to be learned on long-term outcomes and patient selection.

Congenital: Perioperative Management



1559 Transdiaphragmatic tunneled Broviac catheters: Cost-effective perioperative central venous access in infants undergoing cardiac surgery



Muhammad Owais Abdul Ghani, MBBS, Muhammad Aanish Raees, MBBS, Alan Ruigang Tang, BA, Dhivyaa Anandan, BA, Chevis N. Shannon, MBA, MPH, DrPh, and David P. Bichell, MD, Nashville, Tenn

Patients with TBCs have fewer peripheral lines and imaging procedures, and incur lower costs when compared with traditional transthoracic or peripherally inserted catheters.

1567 Commentary: Central venous access in congenital heart surgery: Is it time for surgeons to toe (and place) the line?

Jennifer I. Sherwin, MD, Veerajalandhar Allareddy, MD, and Nicholas D. Andersen, MD, Durham, NC

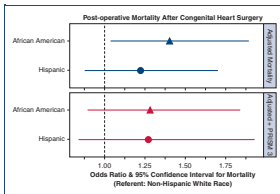
The surgeon-placed transdiaphragmatic tunneled Broviac catheter is an innovative and less expensive alternative to peripherally inserted central catheters in infants undergoing cardiac surgery.

1568 Commentary: Transdiaphragmatic tunneled Broviac catheters: How small ripples can make big waves

Minoo N. Kavarana, MD, FACS, Charleston, SC

Transdiaphragmatic tunneled Broviac catheters provide a cost-effective, reliable, and durable method for perioperative central venous access during pediatric cardiac surgery.

Congenital: Health Policy



1570 Association between race/ethnicity, illness severity, and mortality in children undergoing cardiac surgery



Yuen Lie Tjoeng, MD, MS, Kathy Jenkins, MD, MPH, Jason F. Deen, MD, and Titus Chan, MD, MS, MPP, Seattle, Wash, and Boston, Mass

African American race is associated with higher odds of death after congenital heart surgery, mediated by severity of illness. Improving pre- and intraoperative factors may improve this disparity.

1580 Commentary: Ode to the editorial process: Health care disparities unmasked
Natalie Jayaram, MD, MSB, Brett R. Anderson, MD, MBA, MS, and Tara Karamlou, MD, MSc, Kansas City, Mo; New York, NY; and Cleveland, Ohio

Iterative evolution of truth: Highlighting the importance of associations between illness severity and socioeconomic/race factors is a critical step forward.

1582 Commentary: Focusing the lens on racial disparities in congenital heart surgery
Nicholas D. Andersen, MD, and Joseph W. Turek, MD, PhD, Durham, NC

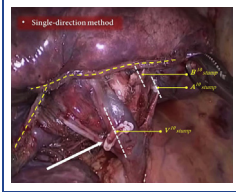
Racial disparities in congenital heart surgery persist and appear to be driven largely by preoperative illness severity.

Thoracic Articles in AATS Journals

1584 Thoracic

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Thoracic: Lung Cancer



1586 Single-direction thoracoscopic basal segmentectomy



Chengwu Liu, MD, Hu Liao, MD, Chenglin Guo, MD, Qiang Pu, MD, Jiandong Mei, MD, and Lunxu Liu, MD, PhD, Chengdu, China

The single-direction method enables thoracoscopic single or combined basal segmentectomy to be performed in a simple manner.

1595 **Commentary:** Basilar segmentectomy: A new weapon against cancer for the modern thoracic surgeon?

Juan A. Muñoz-Largacha, MD, and Benjamin Wei, MD, Birmingham, Ala

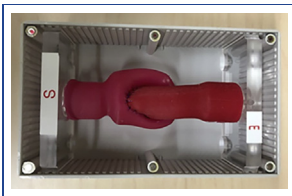
Liu and colleagues describe a novel, single-direction technique for thoracoscopic basal segmentectomy showing the feasibility and safety of the procedure for this challenging anatomic resection.

1596 **Commentary:** Single-direction or multidirection basilar segmentectomy: Is there an easier way?

Nazgol Seyednejad, MD, and Sebastien Gilbert, MD, Ottawa, Ontario, Canada

Standardization of techniques for complex anatomic sublobar resections is required to facilitate adoption by practicing surgeons and education of trainees.

Thoracic: Esophageal Cancer



1598 **A novel cervical esophagogastric anastomosis simulator**



Mark B. Orringer, MD, Doug Hennigar, BSME, Jules Lin, MD, and Deborah M. Rooney, PhD, Ann Arbor, Mich



The development and initial evidence supporting validity of a CEGA simulator are described.

1608 **Commentary:** Can simulation training improve patient outcomes?

Ivan Azevedo, MD, and Paula Ugalde Figueroa, MD, Rio de Janeiro, Brazil, and Quebec, Quebec, Canada

Orringer and colleagues created a medium-fidelity simulator that may be useful in teaching esophagogastric anastomosis. Simulation training should be embraced as thoracic surgery becomes more complex.

1610 **Commentary:** The cervical esophagogastric anastomosis: Augmenting training through simulation

Ernest G. Chan, MD, MPH, James D. Luketich, MD, and Inderpal S. Sarkaria, MD, MBA, Pittsburgh, Pa

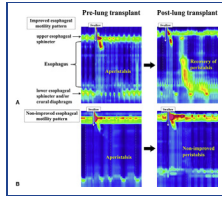
In an age when quality is driven by outcomes, surgical simulation has helped facilitate the training of cardiothoracic residents and fellows to reproduce excellent clinical and technical results.

1611 **Commentary:** Practice makes perfect in cervical esophagogastric anastomosis

Nikhil Panda, MD, and Christopher R. Morse, MD, Boston, Mass

A novel, purpose-built cervical esophagogastric simulation model designed for surgical education demonstrated fidelity among experienced thoracic surgeons and trainees.

Thoracic: Lung Transplantation



1613 Esophageal aperistalsis and lung transplant: Recovery of peristalsis after transplant is associated with improved long-term outcomes



Takahiro Masuda, MD, Sumeet K. Mittal, MD, Máté Csucska, MD, Balazs Kovacs, MD, Rajat Walia, MD, Jasmine L. Huang, MD, Michael A. Smith, MD, and Ross M. Bremner, MD, PhD, Phoenix, Ariz

Esophageal aperistalsis has been considered a relative contraindication for lung transplant because of a higher risk of allograft dysfunction (secondary to reflux/aspiration from poor esophageal clearance). We found that esophageal aperistalsis is not necessarily a contraindication for lung transplant. Improved peristalsis can be expected in up to two-thirds of these patients.

This article has an associated webcast.

1627 Commentary: To do, or not to do, that is the question

Hiroshi Date, MD, Kyoto, Japan

Esophageal aperistalsis may not be necessarily a contraindication for lung transplant because improved peristalsis may be expected in up to two-thirds of these after lung transplant.

1628 Commentary: Can the esophagus curse a lung transplant?

Joseph B. Shrager, MD, Stanford, Calif

Although most patients have posttransplant recovery of esophageal dysfunction, aperistaltic esophagus that persists following lung transplant likely bodes poorly for the lungs.

1629 Commentary: Esophageal aperistalsis should not preclude lung transplant candidacy in well-selected patients

Usman Ahmad, MD, Cleveland, Ohio

Absence of peristalsis does not exclude the possibility of lung transplantation in carefully selected patients. High-risk features should be taken into consideration in addition to HRM findings.

1630 Commentary: The return of peristalsis after lung transplant in patients with an aperistaltic esophagus—is it possible?

Chi-Fu Jeffrey Yang, MD, Stanford, Calif

Carefully selected patients diagnosed with an aperistaltic esophagus before lung transplant can have improved esophageal motility and reasonable long-term survival after transplant.

Announcements

The American Association for Thoracic Surgery



1632 AATS 100th Annual Meeting: A Virtual Learning Experience

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1632 *View Updated Content on AATS Online*

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The AATS Foundation



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The Western Thoracic Surgical Association

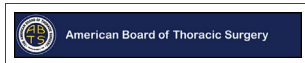


1633 *Save the Date*

1633 *WTSA Traveling Fellowship for Residents, Trainees, and Practicing Surgeons*

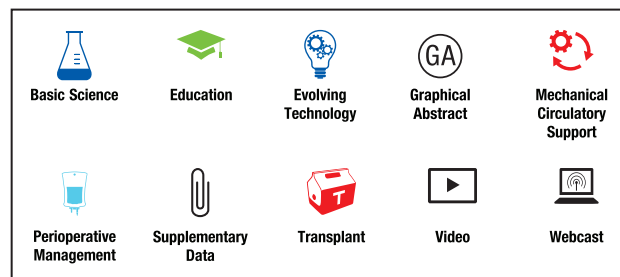
1634 *Applications for WTSA Membership*

The American Board of Thoracic Surgery



1634 *ABTS Announcement*

1635 *ABTS Requirements for the 10-Year Milestone for Maintenance of Certification*



The Journal of Thoracic and Cardiovascular Surgery online is sponsored by St. Jude Medical.

Cover Photographs

Left (Adult): From The Fate of Residual Aortic Regurgitation After Ascending Aorta Replacement in Type A Aortic Dissection. After surgery of ascending aortic replacement in patients with acute type A aortic dissection, high preoperative or postoperative aortic regurgitation (AR) is significantly associated with increased AR grade over time.

Center (Congenital): From Low Preoperative Superior Vena Cava Blood Flow Predicts Bidirectional Cavopulmonary Shunt Failure. Relationship among preoperative indexed and absolute superior vena cava (SVC) blood flow and bidirectional cavopulmonary shunt (BCPS) takedown/death. All except 1 BCPS takedown and death occurred in

patients with pre-BCPS SVC indexed flow less than 1.6 L/min/m² and absolute flow less than 0.5 L/min.

Right (Thoracic): From Single-Direction Thoracoscopic Basal Segmentectomy. Demonstration of the single-direction method. The procedure was initiated via dissection of the inferior pulmonary ligament. Then, the segmental structures were dissected and managed from superficial to deep in order of their appearance: vein, bronchus, artery, and intersegmental planes. The whole procedure proceeded in a single direction. V10. Vein of the dorsal basal segment. B10. Bronchus of the dorsal basal segment. A10. Artery of the dorsal basal segment.