

Devon Anderson Publications

1. PMID: 35440395

Migration of pressure sensor lead from hypoglossal nerve stimulator into right lung.

Anderson D, Fuller SC, Godoy LA.

Am J Otolaryngol. 2022 May-Jun;43(3):103462. doi: 10.1016/j.amjoto.2022.103462. Epub 2022 Apr 11. PMID: 35440395 Free article. No abstract available.

2. PMID: 35701995

Multidisciplinary approach to coronary artery revascularization: Optimal strategy for high-risk patients.

Anderson D, Chen S, Southard J, Catrip-Torres JM, Kiaii B.

J Card Surg. 2022 Sep;37(9):2900-2902. doi: 10.1111/jocs.16685. Epub 2022 Jun 14.

3. PMID: 37954493

Large Ascending Aortic Pseudoaneurysm with Focal Dissection after Coronary Artery Bypass Surgery.

Anderson D, Xue A, Wong S, Kiaii B, Catrip-Torres J.

Thorac Cardiovasc Surg Rep. 2023 Nov 10;12(1):e60-e62. doi: 10.1055/a-2192-5909. eCollection 2023 Jan. PMID: 37954493 Free PMC article.

4. PMID: 34647053 Free PMC article. No abstract available.

Minimally invasive surgical aortic valve replacement in setting of pseudoxanthoma elasticum.

Anderson D, Gustafson J, Tseng EE.

JTCVS Tech. 2021 Jul 22;9:36-39. doi: 10.1016/j.xjtc.2021.07.008. eCollection 2021 Oct.

5. PMID: 35080596

Comprehensive Review of Chest Tube Management: A Review.

Anderson D, Chen SA, Godoy LA, Brown LM, Cooke DT.

JAMA Surg. 2022 Mar 1;157(3):269-274. doi: 10.1001/jamasurg.2021.7050. PMID: 35080596 Review.

Aorta: Case Report

Right Coronary Artery Dissection After Ross Procedure



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The Ross procedure is a surgical option for the treatment of aortic valve stenosis that is performed in a select subset of patients. This case report highlights the rare complication of a coronary artery dissection that occurred in the early postoperative period after a Ross procedure. The importance of timely recognition, swift intervention, and multidisciplinary team collaboration is discussed in the postoperative management of this complex cardiac surgery patient.

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Patients who present for surgical intervention of aortic valve stenosis receive a mechanical valve, bioprosthetic valve, aortic valve homograft, or pulmonary autograft (also known as the Ross procedure).¹ There are risks and benefits associated with each procedure and valve type. Postoperative complications of aortic valve surgery include hemorrhage, sepsis, heart block, arrhythmias, stroke, and reexploration for bleeding.² A less common postoperative complication is coronary artery dissection. We describe the rare complication of a right coronary artery (RCA) dissection that manifested in the early postoperative period after the patient underwent a Ross procedure.

A 47-year-old woman with a history of hyperlipidemia, prediabetes, and known congenital bicuspid aortic valve was found to have severe symptomatic aortic valve stenosis. Outpatient echocardiography revealed a mean gradient of 46 mm Hg across the valve, aortic valve area of 0.6 cm², and ejection fraction of 66%. Symptoms included shortness of breath, chest pain with exertion, and presyncope. Preoperative cardiac catheterization

confirmed severe aortic stenosis and normal left ventricular and right ventricular function with mild (30%) stenosis of the proximal RCA.

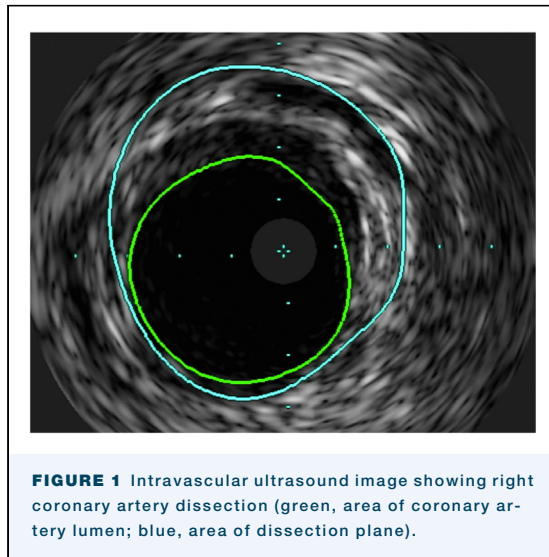
After multidisciplinary conferences, she underwent an uncomplicated supported Ross procedure. The pulmonary autograft was harvested and sewn into a 26-mm Dacron graft to replace the aortic root, and she received a 23-mm pulmonary homograft to restore continuity between the right ventricle and branch pulmonary arteries. The left main coronary artery was noted to come off close to the commissure in the bicuspid aortic root; therefore, it was anastomosed close to the commissure of the autograft after a circular opening was made in the Dacron graft and pulmonary autograft wall. The RCA was anastomosed in a similar fashion. Coronary ostial cannulation was performed during the implantation of the coronary buttons for the delivery of cardioplegia. After the procedure was completed, transesophageal echocardiography showed good biventricular function without aortic insufficiency or pulmonary insufficiency. Total cardiopulmonary bypass time and cross-clamp time were 196 and 126 minutes, respectively. Postoperatively, she was taken to the cardiothoracic intensive care unit for recovery and was extubated without complications.

On postoperative day (POD) 1, she was hypotensive with increased central venous pressures and increasing pressor requirements. Bedside echocardiography showed poor right ventricular function compared with intraoperative echocardiography. She was urgently taken to the cardiac catheterization laboratory and found to have 70% proximal RCA stenosis due to RCA dissection as seen on intravascular ultrasound (Figure 1). She underwent percutaneous coronary intervention to the proximal/ostial RCA with a drug-eluting stent, with excellent angiographic results (Figure 2). Shortly thereafter, she demonstrated tamponade physiology and was found to have a large pericardial effusion on bedside ultrasound. She was emergently transported to the operating room for mediastinal exploration. She was found to have an extremely tense and dilated right atrium with bleeding from the inferior vena cava cannulation site, which was repaired with a suture. After the operation, she was placed on venoarterial extracorporeal membrane oxygenation and transferred to the cardiothoracic intensive care unit for recovery. Four days after the index procedure, she was successfully weaned from extracorporeal membrane

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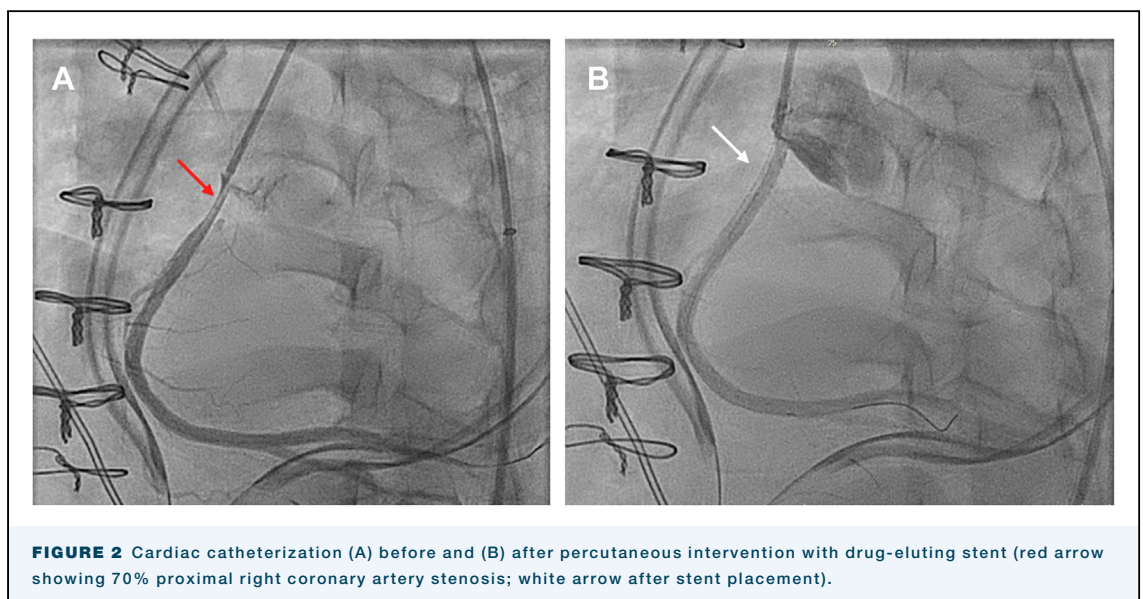
oxygenation. She was extubated on POD 8 and discharged on POD 15.

COMMENT

The Ross procedure, first described by Donald Ross in 1967, involves replacing the aortic valve with a pulmonary autograft and placing a homograft in the pulmonary position.^{1,3} The advantages of replacing the aortic valve with a pulmonary autograft include low valve gradients and the freedom from anticoagulation.^{4,5} Studies have shown an improved life expectancy and better quality of life with the Ross procedure compared with other forms of aortic

valve replacement.^{4,5} This procedure is ideal for young (≤ 50 years) patients with isolated aortic valve disease, small annulus, and active lifestyle and for those who wish to avoid anticoagulation and to have long-term freedom from redo operation.¹ Despite the benefits associated with the Ross procedure, The Society of Thoracic Surgeons National Database showed that $<0.5\%$ of the aortic valve procedures performed between 1994 and 2010 were Ross procedures.⁵ This is in part due to the technical complexity of the Ross procedure as well as the wide range of morbidity and mortality associated with the operation. Single centers of excellence have reported $<1\%$ mortality, whereas other meta-analysis papers have reported 3.2% mortality.⁵ Other known deterrents to this procedure include the risk of reintervention and giving the patient “2-valve disease” with late autograft valve failure and the need for replacement of the pulmonary homograft.^{1,2,6} Dilation of the neo-aortic root with subsequent autograft insufficiency can lead to a redo aortic root surgery or Bentall procedure, which is a high-risk operation in patients who have previously undergone cardiac surgery. This can be mitigated by performing the procedure in patients with a small annulus and externally reinforcing the pulmonary autograft with a Dacron graft, which is called a supported Ross procedure.^{4,6} The wide range of mortality, the risk of reintervention, and the complexity associated with this operation account for the low number of Ross procedures performed by surgeons.

Dissection of the RCA can be iatrogenic after manipulation around the coronary artery ostium or occur spontaneously. In spontaneous coronary artery



dissection, an intramural hematoma creates a false lumen in the arterial wall and compresses the true lumen, which obstructs coronary blood flow.^{7,8} An intimal tear is not always visible in patients with spontaneous coronary artery dissection as it may be due to ruptured vasa vasorum bleeding into the arterial wall.⁷ The decreased blood flow can lead to myocardial infarction and is seen in younger women and usually not associated with atherosclerotic plaques.^{7,8} Iatrogenic coronary artery dissection occurs during instrumentation, such as during a cardiac catheterization or with the antegrade cardioplegia catheter during cardiac surgery. The intima of the vessel is disrupted, which leads to the dissection of tissues that can propagate into the ascending aorta, into the arch, or around the pericardium, causing cardiac tamponade.

Our patient had an RCA dissection and RCA flow disruption on POD 1. This resulted in right ventricular failure and elevated central venous pressure, which led to dilation of the right atrium and disruption of the inferior vena cava cannulation suture site, leading to cardiac tamponade. This unusual sequence of events probably resulted after instrumentation of the coronary ostium during delivery of cardioplegia in a diseased vessel. The timing suggests that there was

progression of the dissection or late dissection of the vessel in the early postoperative period.

Certain postoperative complications associated with aortic valve surgery are well described. However, this case report highlights the rare complication of an RCA dissection that occurred in the early postoperative period after a supported Ross procedure. The importance of multidisciplinary team collaboration, timely recognition, and expeditious intervention highlights valuable aspects of the postoperative management of complex cardiac surgery patients. These operations should be performed at centers of excellence to mitigate and to overcome such complications.

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DISCLOSURES

Bob Kiaii reports a relationship with Medtronic that includes: consulting or advisory. Bob Kiaii reports a relationship with Johnson & Johnson that includes: consulting or advisory. Bob Kiaii reports a relationship with Abbott that includes: consulting or advisory. Jeffrey Southard reports a relationship with Edwards Lifesciences that includes: consulting or advisory. Jeffrey Southard reports a relationship with Boston Scientific that includes: consulting or advisory. Jeffrey Southard reports a relationship with Abbott that includes: consulting or advisory.

PATIENT CONSENT

Obtained.

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JAMA Surgery—The Year in Review, 2022

Melina R. Kibbe, MD

2022 was a year associated with tremendous accomplishments for *JAMA Surgery*. First, as evidence of the high-quality scientific publications in *JAMA Surgery*, the impact factor rose from 14.8 to 16.7. This remarkable achievement reflects the hard work of the journal's authors, peer reviewers, and editorial team. The impact factor, along with other important metrics, continues to position *JAMA Surgery* as the number 1 ranked surgery journal in the world.

In 2022, the acceptance rate for all article types was 19%; for Original Investigations, 8%; and for Research Letters, 17%. The journal's most popular articles by views and downloads, news and social media coverage, and citations are listed in the Table.¹⁻⁹ The web and social media presence for *JAMA Surgery* continues to be strong under the leadership of

Amalia L. Cochran, MD, the Web and Social Media Editor. More than 4.6 million articles were viewed and downloaded from the journal website in 2022. The journal's electronic table of contents is delivered each week to more than 126 000 individuals. We currently have 47 500 Twitter followers, which represents an 11.6% increase in 2022, and 27 161 Facebook followers, which represents a 0.3% increase in 2022 (Table). Thus, between the electronic table of contents, visits to the journal website, social media reach, and print distribution, *JAMA Surgery* reaches more than 130 000 individuals weekly.

JAMA Surgery continues to promote the work of authors through additional outlets. *JAMA Surgery* publishes author interview podcasts¹⁰ each month under the direction of Dr Cochran, who brings a wonderful level of insight into the interview process with the authors. Articles published in *JAMA Surgery* had extensive press coverage, with 8179 media mentions in 2022 in outlets such as *The New York Times*, *Wall Street Journal*, *USA Today*, *CNN*, *NPR*, and *Forbes*. In recognition of the press coverage, web, and social media support, articles in *JAMA Surgery* have done well with Altmetric scores (measures of news and social media attention). *JAMA Surgery*

Table. JAMA Surgery Statistics for 2022

Characteristic ^a	Result
Manuscript data	
All manuscripts received	2446
Research manuscripts received ^b	1933
Acceptance rate, %	
Overall	19
Research	9
Original Investigations	
Received, No.	1701
Acceptance rate, %	8
Research Letters	
Received, No.	232
Acceptance rate, %	17
Viewpoints	
Received, No.	130
Acceptance rate, %	24
Manuscripts sent for external peer review, %	25
Peer reviewers, No.	436
Receipt to first decision without peer review, median, d	11
Receipt to first decision with peer review, median, d	39
Peer reviewer turnaround, median, d	10
Acceptance to publication, median, d	84
Receipt to publication, median, d	133
2021 Journal impact factor	16.7
Information dissemination data	
Recipients of electronic table of contents per week	126 098
Views/downloads per year, million	4.6
Media mentions	8179
Social media followers	74 661
Twitter	47 500
Facebook	27 161
LinkedIn	2813

(continued)

Table. JAMA Surgery Statistics for 2022 (continued)

Characteristic ^a	Result
Top 3 articles by views/downloads	
1. Gao et al, ¹ Effect of Early vs Late Supplemental Parenteral Nutrition in Patients Undergoing Abdominal Surgery: A Randomized Clinical Trial	28 050
2. Rohatgi et al, ² Perioperative Cardiovascular Considerations Prior to Elective Noncardiac Surgery in Patients With a History of COVID-19	27 956
3. Anderson et al, ³ Comprehensive Review of Chest Tube Management: A Review	21 792
Top 3 articles by Altmetric score	
1. Gill et al, ⁴ Population-Based Estimates of 1-Year Mortality After Major Surgery Among Community-Living Older US Adults	769
2. Burns et al, ⁵ Association of Anesthesiologist Staffing Ratio With Surgical Patient Morbidity and Mortality	538
3. Forbes et al, ⁶ Uterine Transplant—Progress, but Concerns Remain	529
Top 3 articles by Web of Science citations	
1. Markmann et al, ⁷ Impact of Portable Normothermic Blood-Based Machine Perfusion on Outcomes of Liver Transplant: the OCS Liver PROTECT Randomized Clinical Trial	34
2. Lim et al, ⁸ Survival After Hyperthermic Intraperitoneal Chemotherapy and Primary or Interval Cytoreductive Surgery in Ovarian Cancer: A Randomized Clinical Trial	18
3. Rosen et al, ⁹ Biologic vs Synthetic Mesh for Single-stage Repair of Contaminated Ventral Hernias: A Randomized Clinical Trial	16

^a Data based on all manuscripts submitted, including research, review and education, opinion, and letters.

^b Includes Original Investigations and Research Letters.

published 4 of the top 5 and 34 of the top 50 articles by Altmetric score among surgery journals in 2022.

In 2022, *JAMA Surgery* published the fourth series of short educational articles intended to help surgeons who conduct randomized clinical trials and interpret the findings of the trials. The series, entitled “Guide to Statistics and Methods: Randomized Clinical Trials in Surgery,” is an 11-part series intended to address the critical aspects of managing randomized clinical trials.¹¹ Earlier Guide to Statistics and Methodology series include Reporting Guidelines published in 2021, Health Services Research Methodology published in 2020, and the Practical Guide to Surgical Data Sets published in 2018.¹²⁻¹⁴ All of these Guides to Statistics and Methods series can be found at <https://jamanetwork.com/journals/jamasurgery/pages/statistics-and-methods>.

In 2022, we also welcomed our new editor in chief of the JAMA Network, Kirsten Bibbins-Domingo, PhD, MD, MAS.

We look forward to the impact Dr Bibbins-Domingo will have on the science published across the JAMA Network journals. Additionally, *JAMA Surgery* welcomed our inaugural Deputy Editor for Diversity, Equity, and Inclusion, Leah M. Backhus, MD, MPH. The creation of this position is part of many initiatives related to diversity, equity, and inclusion across the JAMA Network.

Overall, 2022 was a good year for *JAMA Surgery*. I thank the readers, authors, peer reviewers,¹⁵ and editorial board for contributing to the journal. Through your support, we aim to fulfill our mission to promote the art and science of surgery by publishing relevant peer-reviewed research to assist surgeons in optimizing patient care and to serve as a forum for the discussion of issues pertinent to surgery, such as diversity, equity, and inclusion; the education and training of the surgical workforce; quality improvement; and the ethics and economics of health care delivery.

ARTICLE INFORMATION

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Conflict of Interest Disclosures: None reported.

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