

**Socrates and McGoon Award**

The TSRA is accepting nominations for faculty members who have made outstanding contributions to cardiothoracic surgery education through two awards:

The **Socrates Award** is an annual award given to the outstanding surgical educator who has demonstrated a significant commitment to excellence in resident education throughout their careers.

The **McGoon Award** is presented to a junior faculty member (within first 10 years of career) who has demonstrated a significant commitment to excellence in cardiothoracic resident training inside and outside of the operating room, such as through academic or societal efforts.

**Trainee Opportunities in CT Surgery**

By: **Evan Rotar**

Free **STSA virtual webinar** on cardiothoracic surgery will be held on Friday 11/5 from 4-6PM. [Link](#)

**Fellows Webinar Series:** Preparing the Next Surgeon Series of six webinars. Sponsored by Edwards Lifesciences. Multiple Sessions [Link](#).

**Annual CTSNet Resident Video Competition** December 1, 2020 [Link](#).

**StacKids Host Program** [Link](#).

**Associate Membership in the TSRA:** General surgery, cardiology, international cardiothoracic surgery resident/fellows, and medical students are eligible. [Link](#).

**AATS Scholarship Programs** [Link](#).

**Cardiothoracic Ethics Forum Scholarship** October 30, 2020 [Link](#).

**TSRA/STS Global Outreach Fellowship in Cardiothoracic Surgery** December 15, 2020 [Link](#).

**TSRA/STS Traveling Fellowship in Cardiothoracic Surgery** December 15, 2020 [Link](#).

**ESATS 13** Interested in purchasing [Link](#).

**Clinical Scenarios**

**Purchase now in online and print.**

Many additional and updated chapters.

**TSRA Webinar:** In Case You Missed our last Webinar on **Applying to Cardiothoracic Fellowship in the COVID Era** October 8 2020

**Paralel**

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**Young Surgeon's Note**

This month's topic: **What habits can interns build early on to prepare for a career in CT surgery?**

By: Drs. Lou, Lawrence, Vaporciyan, Tribble

**Xiaoying Lou MD – PGY 5**  
Emory University

**Preparation:**

There is no substitute for solid preparation. Be meticulous and detail-oriented, take the time to read about the pathology and operative steps before the case, talk to your attendings about the prep imaging and indications for surgery, discuss the pitfalls during the case, and take time to write down everything. Everything matters – you need to know exactly how each attending sets up their cases, what type of suture is used, how the anastomosis is conducted, and the like. Remember that the more comfortable the attending is with you (which is often directly reflected by how you set up their case), the more you will get to do. Take notes, and spend time reflecting on what went well and what you need to work on for next time. Attention to detail and following up is key, and something that needs to be part of your psyche, no shortcuts: know your patients inside and out, all their home meds, allergies, baseline labs – memorize them! You need to be the expert on your patients – take ownership of their care!

**Persistence and perfect practice:**

You are going to make a lot of mistakes during intern year and throughout residency. Accept that but try your very best to avoid them. And when they do happen, learn from them. Making mistakes and improving upon them is how you learn and is a necessary part of the training process. Practice as much as you can – time outside of the OR for simulated practice is just as important as time spent inside the OR, especially early on in your training.

**Preserving your passion for CT surgery!**

Remember that training is temporary, and even when things are tough and they will get tough, there is a light at the end of the tunnel. No one perfected a coronary anastomosis the first time they did one, but with practice and time and repetition, you will get there. There will be ups and downs throughout intern year and throughout your career, but keep your head up, and keep moving forward. Work hard and trust the training process!

Xiaoying Lou MD is a PGY-5 integrated cardiothoracic surgery resident at Emory University and the immediate past president of the TSRA (2019-2020).

**Kendall Lawrence MD – PGY 7**  
New York Presbyterian – Weill Cornell Medical Center

There is an incredible amount of knowledge to acquire in surgical training. Some of this information will come from reading and re-reading your textbooks, but unlike in medical school, the most important lessons will not be spoon fed but imparted in the operating room. It can be difficult to recognize the value in these moments in the midst of a chaotic day, but it's essential to capitalize on opportunities in the operating room and start to organize that information.

Learning when and how to perform an operation is difficult, and you will not acquire this skill as a passive observer. After every case, write some technical notes to yourself. What were the reasons for failure? How did you manage the case? How to focus and drap the patient? What were the key steps to the operation? After each subsequent repetition of the operation, add new details, and attend to variations, and anatomic variations. How did we use that anatomy? What suture did we use? How did we use that anatomy? Take five minutes before you do the PACU or go to bed at night to jot these moments down. These notes can be brief and nearly illegible with poorly drawn doodles because they are just for you. Waiting for the weekend or a block of free time will inevitably lead to blank pages in your notebook.

This revision is tedious at first but recording these details will help solidify the operative steps in your head. Operations will no longer be a blur, but a series of small and precise steps that you can master. Reviewing these notes before cases will become a valuable tool that allows you to perform a mental dress rehearsal before you perform the surgery again. Reflecting on past cases and the thrill of operating can also become a nice reminder of why you are here during the long, chaotic days of intern year.

Kendall Lawrence MD is a general surgery resident at the New York Presbyterian Hospital Weill Cornell Medical Center and an incoming cardiothoracic surgery fellow at the Hospital of the University of Pennsylvania.

**Ara Vaporciyan MD**  
MD Anderson Cancer Center

There is the obvious one: focusing on improving one's skills through habitual repeated questioning of Harvard Medical School. Be relentless in eliciting feedback on your own behaviors. What triggers unwanted emotions and behaviors? As one develops that initial skill you can move to the next skill, how I can anticipate my emotional reaction and manage my behavior in anticipation of that event. If you just start the habit of honing these two initial components of emotional intelligence, it will set you up for the leadership skills that are so integral to being a competent thoracic surgeon.

Ara Vaporciyan, MD is a general thoracic surgeon and the Chair of the Department of Cardiothoracic and Cardiovascular Surgery at MD Anderson with an academic focus on education, specifically on assessment and curriculum design.

**Curt Tribble MD**  
University of Virginia

In my essay, "On Becoming a Surgical Intern: Navigating the Lurch from Medical School to Internship," I talk about many essential skills to focus on one aspect.

To start, I want to quote one of the most influential American composers of the 20<sup>th</sup> century – Leonard Bernstein. - "To achieve great things, two things are needed: a plan and not quite enough time."

These are what your budding careers in cardiothoracic surgery will need – a strategy to make learning a seamless yet continuous part of your life and energy become your scarifier. Signing "on the go" as a surgical house-officer differs significantly from the learning styles and approaches that got you through much of your prior formal education. In fact, the learning strategies that will be necessary when you are a surgical house officer are very different, and they always will be."

It is important to prioritize efficiency and pragmatism now. It's not about buying more books, but choosing the ones you will actually read and use. Get a good copy of a textbook that you can get to work with. You will likely be amazed at how efficiently you can master a subject through this approach. Plus, you will avoid the risk of "book apnea," which can occur when you fall asleep with a heavy textbook on your chest."

Manuscript of the Month

By: Clauden Louiss

**Title of Feature Manuscript:**

**Pericardial Mechanical Aspiration for Pseudoaneurysm after Percutaneous Endocardial Ablation in People who Inject Drugs**

Authors: Michael P. Veve, PharmD, MPH, Yasir Akhtar, MD, Peter P. Mehta, MD, Morgan A. Hietanen, MD, Hafizur Rauf, MD, Dharma D.

**Abstract**

Valve surgery in tricuspid-valve infective endocarditis is controversial in people who inject drugs (PWID) due to perceived risks of operative infection due to septicidism. The study objective was to compare outcomes of percutaneous mechanical aspiration (PMA) versus valve surgery in PWID with tricuspid-valve infective endocarditis.

**Methods**

Retrospective cohort of adult PWID hospitalized with definite tricuspid-valve infective endocarditis and received PMA or valve surgery from 1/2014-4/2019. Primary endpoint was all-cause 12-month mortality; secondary endpoints included in-hospital mortality and all-cause 12-month mortality.

**Results**

85 patients were included: 42 PMA, 43 valve surgery. Baseline patient demographics were similar between groups: 29% of patients were women, and the median (IQR) age was 31 (27-41) years. History of cardiac catheterization was more common in the PMA group. Preoperative long-term antiepileptic therapy prior to surgical intervention, 33 (38%) patients presented with septic shock on admission. The most commonly organism was methicillin-resistant Staphylococcus aureus (25/4, 29%). 11 (12%) PMA patients died in-hospital and 2 (2%) patients who received valve surgery (P=1). All-cause 12-month mortality was 24% and 19% for PMA and surgery groups, respectively (P=0.57). When considering confounders, there was no difference in all-cause 12-month mortality between PMA and valve surgery groups (aOR, 1.5; 95%CI, 0.48-4.8); no significant differences in the secondary outcomes were identified.

**Conclusions**

PMA was associated with similar outcomes to valve surgery for management of TVE in PWID. PMA may be an alternative to valve surgery as a treatment or bridging strategy in PWID. PWID undergo addiction treatment.

**Question and answer with Dr. Shorman**

Congratulations on publishing your work, "Pericardial Mechanical Aspiration vs Valve Surgery for Tricuspid-valve Endocarditis in People who Inject Drugs". We have several questions that will help elucidate findings and hopefully change clinical practice.

**Question 1. In your manuscript it is stated that 12% of PMA had mortality in the hospital course to 2ks valve surgery. Although this is not statistically significant, how did you choose surgery versus PMA? Did you preferential choose risk of mortality as one treatment modality versus the other, did patient choice play a factor and/or economic criteria? Were there any residual vegetation seen on PMA patients?**

**Response 1.** For the purposes of the manuscript, the decision to pursue surgery or PMA was made on a case-by-case basis at the discretion of the cardiothoracic surgeon or interventional cardiologist. Mortality risk and echocardiographic criteria are considered before proceeding with either intervention. At our site(s), PMA has become the more common procedure in right sided IE secondary to injection drug use. This is likely due to increased maturation and comfort in performing the technique, as this study spanned from 2014 to 2019. The PMA procedure was first performed at our site(s) in 2017.

**Question 2. What do you feel are the implications of the care of these patients given a high redecision rate in most IVU patients? (More interventions will be offered or strict criteria meant based on surgical risk stratification...)**

**Response 2.** While our data suggests PMA as an alternative to decrease right sided IE-related mortality (and possibly mortality) short-term, on-going injection drug use is extremely likely to cause redecision services focused on substance use disorder. Our centers serve a unique mixture of urban and rural populations; many PWID reside in rural areas that lack access to care to receive medications for opioid use disorder (MOUD) such as buprenorphine. Breaks in continuity of care have been historically common.

**Question 3. For the patient who is critically ill, heart failure, right side embolic manifestations and large IVU vegetation what would you recommend given the manuscript quoting a clearance of 80%? What if the addition he has had previously bioprosthetic tricuspid valve replaced one year prior? What if the patient has suffered a stroke instead?**

**Response 3.** Percutaneous endocardial debridement of the tricuspid valve will hopefully prove to be an alternative to early surgical debridement or replacement. While there is always the potential for septic emboli during the debridement it may still be preferable to early surgery. One of the authors (Mckeown) has debinded 2 bioprosthetic valves with the Pema and device. With regards to stroke, there is an increasing trend to "On and Done" in these patients so this may be an alternative to reoperation. An integral part of any extensive endocarditis program today is to include psychosocial counseling and potential vitrol as part of the management. Strokes are usually a reflection of left sided lesions (or CT MRI/CT Head findings). We usually try to wait 3 to 4 days if non hemorrhagic. If hemorrhagic we tend to wait longer.

**Question 4. What do you feel are the limitations of this study?**

**Response 4.** There are several limitations to this study that must be highlighted. First, this is a very small sample of patients where Type II error may be present, as in there may actually be a difference in outcomes that we were unable to detect due to the small sample size. This study was performed at two centers where PMA technique varied slightly, which introduces heterogeneity into study results. There are also other extraneous confounding variables that may not have been accounted for, that can also skew our results. Other centers may have more variable outcomes depending on their patient populations and ability to provide comprehensive surgical and medical management (i.e. addiction services). Many of these limitations can be addressed with subsequent well-designed, larger comparative studies.

**Question 5. Given what you have presented today do you feel management of tricuspid valve endocarditis will change, or should change?**

**Response 5.** We feel that the management of right-sided IE secondary to injection drug use should change, under the context of a comprehensive surgical and medical management bundle focused on curtailing substance use disorder. Our limited data suggest PMA may be an alternative to valve surgery, but larger studies and longer endpoint timeframes after PMA are needed. Addiction management services are also vital for us to make headway in improving the care of this underserved population.

[Article Link](#)

**Communications and Social Media**

Instagram, Facebook, Twitter, LinkedIn, YouTube, Instagram

**TSRA Executive Committee** (2020-2021)

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**TSRA Education Resources**

- TSRA Clinical Scenarios in Cardiothoracic Surgery (2nd Ed) Kindle & print available NOW!!!
- TSRA Clinical Algorithms in Cardiothoracic Surgery
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**Abstract Deadlines and Conference Dates**

By: Parth Patel

**If there are meetings you would like to see here please contact Parth M. Patel,** [parth.mukund.patel@emory.edu](mailto:parth.mukund.patel@emory.edu)

Meeting	Submission deadline	Location	Dates
<b>Cardiovascular and Thoracic Specific Meetings</b>			
World Society of Pediatric and Congenital Heart Society (WSPCHA)	CLOSED	CANCELLED	Sept 17-20, 2020
STS Annual Perioperative and Critical Care Conference	CLOSED	Virtual	Sept 24-26, 2020
Extracorporeal Life Support Organization (ELSO)	CLOSED	Virtual	Sept 25-26, 2020
American College of Surgeons (ACS)	CLOSED	Virtual	Oct 4-8, 2020
Eastern Cardiothoracic Surgical Society (ECTSS)	CLOSED	Virtual	Oct 7-10, 2020
European Association for Cardiothoracic Surgery (EACTS)	CLOSED	Virtual	Oct 8-10, 2020
Transcatheter Cardiovascular Therapeutics (TCT)	CLOSED	Virtual	Oct 14-18, 2020
International Thoracic Surgical Oncology Summit	CLOSED	Virtual	Oct 16-17, 2020
CHEST Annual Meeting	CLOSED	Virtual	Oct 17-21, 2020
Congenital Heart Surgeries Society (CHSS)	CLOSED	Virtual	Oct 22-24, 2020
Surgical Treatment for Arrhythmias and Rhythm Disorders	Sep 11, 2020	Virtual	Oct 30-21, 2020
Southern Thoracic Surgical Association (STSA)	CLOSED	CANCELLED	Nov 4-7, 2020
American Heart Association (AHA)	CLOSED	Virtual	Nov 14-16, 2020
Resuscitation Science Symposium (STS)	CLOSED	Virtual	Nov 14-16, 2020
Society of Thoracic Surgeons (STS)	CLOSED	Virtual	Jan 30 - Feb 2, 2021
Annual Update on Pediatric & Congenital CV Disease Conference	Nov 18, 2019*	Huntington Beach, CA	Feb 10-14, 2021
American College of Cardiology (ACC)	CLOSED	Atlanta, GA	Mar 20-22, 2021
International Society for Heart and Lung Transplantation (ISHLT)	CLOSED	Toronto, Canada	Apr 27-30, 2021
American Association of Thoracic Surgery (AATS) & Aortic Symposium	CLOSED	Seattle, WA	May 1-4, 2021
Transcatheter Valve Therapy (TVT) Structural Heart Summit	April 15, 2020*	Chicago, IL	June 9-12, 2021
Western Thoracic Surgical Association (W TSA)	Jan 13, 2020*	Victoria, BC, Canada	June 23-26, 2021
<b>General Surgery Meetings of Interest</b>			
American Surgical Association (ASA)	Nov 25, 2019*	Seattle, WA	Apr 15-17, 2021
Southeastern Surgical Congress (SESC)	Sep 13, 2019*	Atlanta, GA	Feb 13-16, 2021
Southern Surgical Association (SSA)	CLOSED	CANCELLED	Dec 6-9, 2020
Academic Surgical Congress (ASC)	CLOSED	Virtual	Feb 2-4, 2021
American Transplant Congress (ATC)	Dec 15, 2019*	Seattle, WA	June 5-9, 2021
International Society for Artificial Internal Organs (ASAIQ)	Feb 3, 2020*	Washington, D.C.	June 9-12, 2021

**Featured TSRA Podcast**

By: David Blitzer

This month, we are featuring [Applying to Cardiothoracic Surgery During COVID-19](#) a special topic podcast brought to you by a joint effort between the TSRA and the newly formed Thoracic Surgery Medical Student's Association (TSMA). This represents just one part in a series of webinars that the TSRA is hosting to help medical students and residents navigate the uncertainties of the COVID-19 pandemic. We are also hosting sessions on [finding a job](#) and applying to CT fellowships. Recordings of these sessions are also being made available on the [TSRA youtube channel](#). Happy listening!

**Call for a new TSRA podcast ideas**

Due to our expanding and popular podcast series with new ideas & topics. Our existing collection is available on Soundcloud & iTunes.

**Here is a list of unclaimed topics that need to be recorded:**

- Adult Cardiac
- Brain and spinal cord protection + neuromonitoring
- Electrophysiology (common arrhythmias, postop arrhythmias)
- Pericardial complications (include: rupture, bacterial endocarditis, tamponade, constrictive pericarditis)
- Managin/interrogating LVAD
- Transcatheter Mitral Valve Replacement

**General Thoracic**

- Advanced endoscopy + POEM
- Interventional pulmonology / skills for surgeons
- Minimally invasive thoracic resections (TSMIA). This represents just one part in a series of webinars that the TSRA is hosting to help medical students and residents navigate the uncertainties of the COVID-19 pandemic. We are also hosting sessions on [finding a job](#) and applying to CT fellowships. Recordings of these sessions are also being made available on the [TSRA youtube channel](#). Happy listening!
- Esophageal motility disorders

**Congenital**

- Interventional congenital heart procedures
- Congenital mitral valve disease
- Ozaki procedure

**Career**

- Residents as teachers
- Innovation in cardiac surgery
- Quality improvement and outcomes
- Ethics education in CT surgery: where are we now and where are we headed?
- Ethical research practice in CT surgery
- Impaired careers, futility

If you are interested in recording one of the unclaimed podcast topics -OR- have new topics to propose, please contact Garrett Covan @ [covangm@pmc.edu](mailto:covangm@pmc.edu).

**Global Cardiac Surgery: Mitigating Cardiothoracic Surgical Global Health Disparities: A CTSNet "World Hall" Discussion**

Yihan Lin MD MPH

Last month, CTSnet hosted a global webinar to highlight the widespread disparities in cardiothoracic surgical care, as well as discuss solutions for the future.

The event was well-liked. The COVID-19 epidemic has exposed many deficiencies in health care systems globally, and cardiothoracic surgical care has been no exception. The pandemic is highlighting the urgent need for improved global health care capacity building in cardiothoracic care, including infrastructure and workforce needs.

The event was moderated by Dr. David Cooke from UC Davis and Dr. Jacques Kpodonu from Harvard Medical School. Panelists discussed many important topics, including:

- Dr. Frank Edwin (University of Ghana) presented challenges and opportunities of cardiothoracic surgical care delivery in Sub-Saharan Africa.
- Dr. Kpodonu (Beth Israel Deaconess Medical Center) advocated for data-driven advocacy and fostering collaborations which promote sustainable change.
- Dr. Chip Bolman (Tehem Heart) discussed a unique model in Rwanda where an NGO collaboration led to strengthening of the local national health system.
- Dr. Emily Farkas (Indiana University) talked about the role of NGOs, while also presenting the 7 sins of humanitarian medicine: to emphasize the harmful consequences that can happen if we fail to address these global health disparities.
- Dr. Kathleen Epstein (NIH) discussed the importance of professional societies, highlighting opportunities for academic surgeons to negotiate and incorporate humanitarian work within their contracts.
- Dr. John de Graaf-Johnson discussed the steps of establishing a global outreach program from one's home center with an emphasis on leveraging public-private partnerships.

Dr. Dominique Vervoort (KU Leuven) spoke about the role of trainees in advancing the global health disparities. Panelists discussed many important topics, including:

To watch the full webinar, visit: <https://www.ctsnet.org/article/mitigating-cardiothoracic-surgical-global-health-disparities-ctsnnet-world-hall-discussion>.

**Spotlight: Interview with International trainees in pediatric heart surgery: Perspectives of CT Surgery Practice in Pakistan**

Interview of Tariq Babar

By: Irzab Shoahil Bader

Hello I am Tariq Soheil Babar a Consultant in Pediatric Cardiac Surgery recently completing my training. I am at Ladi Reading Hospital, Peshawar, Pakistan

**1. Status of Cardiovascular disease burden in Pakistan?**

Pakistan shares a huge burden of Cardiovascular diseases. Prevalence of Cardiovascular disease is 17% in Pakistan and according to the World Health Organization's estimate, almost 30% of the deaths are due to Cardiovascular diseases.

**2. Cardiothoracic Surgery Training Program in Pakistan?**

Unlike, United States and other European countries, the Pakistan is not a member of the International Society of Thoracic Surgeons (ISTSIA). This represents just one part in a series of webinars that the TSRA is hosting to help medical students and residents navigate the uncertainties of the COVID-19 pandemic. We are also hosting sessions on [finding a job](#) and applying to CT fellowships. Recordings of these sessions are also being made available on the [TSRA youtube channel](#). Happy listening!

In FCPS, there is a 2 years program of core general surgery with few rotations in allied surgical disciplines like orthopedics or Neurosurgery. After 2 years, it is split into two, either three years residency in Cardiac Surgery or 3 years in Thoracic Surgery. So at the end of two different board certifications are awarded after passing an exit exam, called FCPS in Cardiac Surgery or FCPS in Thoracic Surgery.

**3. Institutions/centers, offering Cardiac Surgery training in Pakistan?**

There are a total of 22 centers recognized by our College CPSP for residency of Cardiac and Thoracic Surgery and there are almost 60 supervisors. All of the centers are located in big cities like Rawalpindi, Lahore, Karachi, Peshawar and Multan.

**4. Infrastructure of Cardiac centers in Pakistan?**

Considering Pakistan, as a developing nation, our cardiothoracic services centers are not as developed fully as US or European centers are. But still cardiac surgeons are doing excellent job and doing most of the cardiac surgical cases. Main bulk consists of Coronary artery bypass graft surgeries, followed by valvular replacements/repairs. Most of the centers are also doing simple congenital heart procedures.

Still our cardiac centers are lagging behind in having advanced procedures like hybrid operative techniques, ECMO programs, Mechanical circulatory supports, Heart Lung Transplant, Transcatheter Aortic Valve replacement, advanced minimally invasive procedures, complex aortic surgeries, complex congenital heart and neonatal heart procedures.

**5. Case volume and cost of common open heart procedures?**

Case volume varies in different cardiac centers, most of the centers are doing 400 to 600 cases per year.

As Pakistan belongs to a low socio-economic state, and its Human Development Index value for 2019 is 0.6, which puts the country in the medium human development category, positioning it at 152 out of 189 countries and territories. So we have multiple categories, for instance, for poor populations, we have health insurances, or Government assistance services (Zakat or Bait ul Mal) to cover most of their expenditure. For others we have routine packages and the total cost of a single open heart procedure varies between 2000 to 2500 US dollars.

**6. Issues facing by the Cardiac Surgeons in Pakistan as a developing nation?**

Cardiac Surgeons here in Pakistan, although most of them trained abroad, are working in a resource limited environment, due to this reason, anesthesia and critical care services are also not developed fully, so the outcome of complex cases is not up to the mark compared to other developed centers around the world. Secondly due to high cost associated with open heart procedures, patients are expected to wait on they don't make it for follow-up, which leads to other crucial complications.

**7. Job opportunities for fellows/residents in Pakistan?**

Cardiac Surgery is an advanced field of medicine. Prolonged working hours, mental stress, prolonged learning curve and availability of few centers in our country, cause low numbers of residents and fellows in our specialty. So, job opportunities are better here in Pakistan, as most of the residents are fellows usually get their reqd jobs and positions after completion of their residency and passing exit exam.

**8. Fellowship training opportunities outside Pakistan?**

Our College of Physicians and Surgeons, Pakistan, are offering opportunities for further fellowships and training outside Pakistan, mostly in Ireland and the United Kingdom. But they are very few in numbers. Now, they are considering to increase these opportunities further.

**9. Message to other fellows/residents?**

Cardiothoracic Surgery in Pakistan is a very demanding field. It involves tough working hours, high stress levels of both families and operative teams, good motor and cognitive skills as excessive reading materials. But one can easily pass these tough areas with devotion, honesty, commitment and intelligence with the profession. One day, anyone could be in a good position in a reputable institution, if he/she sticks to these values.

**Diagnostic Challenge**

By: Fatima Waidar

This is a 31 year old man who presented to the hospital with ventricular tachycardia (VT) three years ago. Over the 6 months prior to this visit, he was again seen with complaints of palpitations, lightheadedness and chest discomfort.

He was again noted to be in VT and was cardioverted, QD an electrophysiology study which identified he have multiple foci of VT originating from the left atrium. He underwent imaging which demonstrated the image to the right.

Due to increasing frequency of his episodes, including near syncope, he was placed on a Lifesaver.

Due to his degree of symptoms, he was scheduled for surgery. He underwent ventriculotomy, excision of aneurysm and repair with bovine patch.

Of note, the patient had a family history of ventricular septal aneurysms (father and brother with septal aneurysm)

About ventricular septal aneurysms

Aneurysms of the ventricular septum are extremely rare with very few case reports in the literature. The majority are reported on the membranous portion of the septum and are often prenatally diagnosed. There is a strong suggestion of a familial pattern.

Ventricular septal aneurysm (VSA) can either be muscular or membranous. Muscular VSAs are usually isolated, with a favorable prognosis. But they are rare, their natural history is largely unknown. Membranous VSAs are often associated with other heart anomalies, could result in serious complications, and may require surgical treatment.

VSAs have been found to occur in association with VSAs in 19% of cases. Although patients are typically asymptomatic, an isolated VSA is not without potential risks. The ventricular outflow tract obstruction, infarction, shunting, and thromboembolism.

Surgical correction of a VSA may be required when hemodynamic abnormalities and other symptoms are present. Risk factors for VSA include: congenital factors, pericardial release, or hilar release, further enlargement and potential sequelae of a membranous VSA even in the absence of cardiac symptoms.

Incidentally diagnosed membranous VSAs should prompt investigations for relevant cardiac abnormalities and further diagnostic evaluation. If surgeon elects for no intervention, careful outpatient surveillance must be conducted.

**Citations**

Naidu, Michelle, Ricketts, Aashish, Goela, Gerard, Shoemaker, Sha Li, "Incidental Discovery of a Membranous Ventricular Septal Aneurysm in Two Dissimilar Patients", Case Reports in Cardiology, vol. 12(12), Article ID 324326, 4 pages, 2018. <https://doi.org/10.1155/2018/324326>

Yonlar O, Abdel-Wahab A, Erdem A, Tandoğan İ. Ventriküler septal defekt cerrahisi gecirm