



SEPTEMBER 20th - SUNDAY

On The Scene: Live From PICS~AICS 2015 Day 2

By Karim Diab, MD

Each day of the **Pediatric and Adult Interventional Symposium 2015, The Daily Briefing** from **Congenital Cardiology Today** will bring you summaries of the latest clinical news and information on the topics being presented in the sessions at the live meeting. The **Daily** will also have a wrap-up highlights of some of the more prominent and pivotal discussions that take place at the conference. Please watch for the updates on the **PICS 2015** Event Pilot app!

Saturday at **PICS~AICS 2015** continued with a busy and informative program throughout the day. The morning started with Dr. Terry King talking about ASD closure marking the 40th anniversary on this revolutionary idea and technique (see separate article).

The live case transmissions then continued in the morning with another set of 6 cases transmitted live. The live cases included:

- **From Navati Hospital in Mumbai, India:** Drs. B. Dalvi, P. Kerkar, R. Pinto performed a case of ASD closure using the Amplatzer Septal Occluder with Balloon Assisted Technique, and a case of closure of a ruptured sinus of Valsalva with Amplatzer Duct Occluder.
- **From Children's Heart Center of Nevada in Las Vegas, Nevada:** Drs. A. Galindo and A. Rothman, and joined by Dr. Z. Hijazi performed a case of percutaneous placement of an Edwards Sapien valve, and a case of closure of perimembranous VSD using the Amplatzer Duct Occluder II.
- **From Rady Children's Hospital in San Diego, California:** Drs. J. W. Moore and H. AlSaid performed a case of Melody valve in a 15-year-old with DORV s/p Rastelli repair, and cases of occlusion of arterial feeders of AVM.

More taped cases were presented during the lunch break. These included a case of transfemoral TAVR presented by Dr. Mark Osten from Toronto General Hospital, a case of presented by Dr. Christopher Petit from Emory University, and a case by Dr. Frank Ing from the University of Southern California.

Then the afternoon continued with some of the highlighted breakout sessions at **PICS** including: the nursing and associated professionals breakout session and another joint session about the collaboration between interventionalists and surgeons in building a hybrid program. There were discussions regarding several issues pertaining to hybrid interventions. This included topics, such as myths about CPB, building the hybrid room, hybrid interventions in the neonate, periventricular VSD closure, exit angiography, PVR, hybrid for branch PAs and for HLHS.

The day ended with the "Meet the Experts" session, which allowed attendees to discuss cases with the experienced faculty in an interactive format. **CCT**

Don't Miss These Sessions at PICS~AICS 2015: Sneak Peek at Day 3!

By Karim Diab, MD

On Sunday, there will be no live case transmissions at **PICS**, but more didactic and breakout sessions.

The early morning will start off with the **3rd Annual PICS~AICS 5K Run**, which will take place at 6 am (We hope you joined to make a difference and support **CHIMS - (Congenital Heart Intervention Mission Support!)**).

The scientific program in the morning will start with an update on clinical trials with discussion on Device Development and EFS by Dr. Nicole Ibrahim, Atrial Decompression for Left Heart Failure by Dr. Hans Figulla, and PARCS and COAST II trials by Dr. Richard Ringel. This will be followed by an update on occlusion device studies, such as the St. Jude ASO, the GSO, Nit-Occlud, the LAA devices, Mitraclip, Medtronic self-expanding PV and the Advanta V12 covered stent.

The morning will then continue with a session on the future in Congenital and Structural Interventions that will include: a keynote lecture by Sir Magdi Yacoub about innovations in the field, imaging and interventions on the lymphatic system in complex CHD, bioresorbable stents and occlusion device, advances in stem cell technology, transcatheter Fontan completion and holography.

There will be a special session on access options during catheterization.

The abstract finals will be presented during lunch, so make sure to be there to find out the final winner!

The afternoon will have a session on Current Controversies in Congenital Heart Interventions. This will include topics such as: Palliation in Newborns with Tetralogy of Fallot: Infundibular vs. Ductal Stenting by Dr. JV DeGiovanni, Complex Aortic Arch Narrowing: Stent vs. Surgical Treatment by Dr. David Nykanen, and a hot debate on the "Risk of erosion after ASD closure" (**Pro:** John Rhodes; **Con:** Joaquim Miro).

The afternoon will feature the Spanish breakout session discussing fetal cardiac interventions, long-term outcome in PA/IVS and others. The last session of the afternoon will focus on "Updates on valve interventions in CHD," such as: Updates on the Melody Valve, Risk for Endocarditis, Update on Next Generation "Native" RVOT Valve Studies, Valve-in-Valve interventions, and the COMPASSION data.

The day will end with the **PICS~AICS** Gala dinner, which will take place by the Arias Palm Pool. Make sure to join for a relaxing and fun evening! **CCT**

Forty Years on ASD Device Closure: A Journey with Dr. Terry King



By Karim Diab, MD

Since 1976, when Dr. Terry King attempted the first transcatheter closure of a secundum ASD in a patient using a double-umbrella device, the use of the transcatheter approach became a widely acceptable alternative to surgery in most patients with ASD. The procedure provides several advantages. These include: avoidance of Cardiopulmonary Bypass (CPB) and its potential adverse neurologic sequelae, avoidance of the scar of sternotomy, a lower incidence of post-procedure complications, and a shorter hospital stay.

Now that 40 years have passed since that first attempt, we talked to Dr. King at **PICS~AICS** about the subject after he presented his talk at **PICS~AICS 2015**.

He mentioned that when he initially suggested the idea of nonsurgical device closure of defects, he was told this is "impossible to do and was too complicated!" He was sure it would become a reality, though he never thought so many devices would be available 40 years later!

The King-Mills Umbrella was initially used in April to October 1975, and was attempted in 7 implants in patients with an age range of 17-years-old to 75-years-old. There were 5 successful implants.

Two were unsuccessful due to inability to adequately center the device, which is also the reason implanting was stopped.

Post implant history in the first 30 years, there were no cases of endocarditis, MV or TV Injury, hemolysis, Cardiac Perforation, thromboembolic Event, device migration or detachment. There was one death not related to the device, 9 years post implant (age 84) secondary to CVA and Hodgkins lymphoma.

At 40 years since the King-Mills Umbrellas were implanted, there are 4 remaining patients at 169 patient years.

The first patient was a 17-year-old female, who did not want a scar; she had a 3:1 shunt with a ASD size of 26 mm. The defect was closed with a King-Mills Umbrella size 35-mm with no residual shunt at 16 and 40 year cath.

The second patient was a 17-year-old male with repaired Valvular PS (at age 3.5-years-old) who presented with cryptogenic stroke and had a bidirectional shunt with an ASD size of 18 mm. the defect was closed with a 25 mm King-Mills Umbrella, and there was no residual Shunt and no subsequent strokes.

The third patient was a 44-year-old male with ASD found clinically that measured 21 mm by echo and had a 2.4:1 shunt. It was closed using a 30 mm King-Mills Umbrella size with no residual Shunt. The patient developed chronic A-flutter and A-fib since 1987, and had an attempted ablation in 2007, resulting in an iatrogenic ASD that was later was closed with a 20 mm Amplatzer device during **PICS 2008!** There was only a tiny residual ASD.

The fourth case was a 24-year-old female, s/p TAPVD via LSVC to coronary sinus (at age 6 years). She had a 23 mm ASD with a 2:1 shunt. The defect was closed with a 30 mm King-Mills Umbrella with no residual Shunt. She developed A-Fib since 2002, and cryptogenic stroke in 2014 - and recovered fully, and TEE showed only tiny right-to-left shunt by microbubble.

The fifth case was a 75-year-old male with chronic A-Fib, who had two ASDs measuring 20 mm and 5 mm causing a >4:1 shunt. The defects were closed with a 30 mm King-Mills Umbrella size with only a small residual ASD with a Qp/Qs: 1.3. He continued to have chronic A-Fib, and died in 1984 with a small residual 5 mm ASD noted at autopsy.

In summary, one patient had chronic A-fib prior to implant (now deceased), two patients had strokes (One 39 years post-implant at age 63, one 31 years post-implant at age 48), two patients developed A-Fib post implant, one 12 years post-implant at age 56, one 27 years post-implant at age 51, and one patient with a late tiny atrial shunt.

Dr. King concluded that ASD closure has come from an experimental position to a standard of care! Device closure is very safe, but can have some complications. Metal devices with memory have improved centering, miniaturization and repositioning capabilities. Device closure is also a cost effective treatment with similar results compared to surgical closure. There may be up to a million individuals with ASD devices! **CCT**

Pediatric/Congenital Interventional Cardiology Early-Career Society (PICES): What Is It and Why?

By Brent Gordon, MD



PICES held a breakout session at the **2015 PICES/AICS** conference in Las Vegas, Nevada. **PICES** was established in July 2011, and is currently a subcommittee under the umbrella of the Congenital Heart Disease council of **SCAI**. The group was created to support and advance the careers of young interventionalists in the fields of pediatric and adult congenital heart disease. The goals of the **PICES** group include: promoting clinical education and multi-center research collaboration, improving transcatheter treatment of congenital heart disease in developing countries, and creating a professional network of young interventionalists and investigators. The **PICES** Executive Board is composed of President Brent M. Gordon, MD (Loma Linda University Children's Hospital); Research Chair Bryan H. Goldstein, MD (Cincinnati Children's Hospital); Clinical Chair Matthew Crystal, MD (Morgan Stanley Children's Hospital-New York Presbyterian Hospital, Columbia University Medical Center); and Secretary Gareth Morgan, MB, BCh (The Evelina Children's Hospital at Guys and St Thomas's, London).

The **PICES** group has created a lecture series for early career interventionalists with previous talks dedicated to "Finding one's career niche," "How to be a great cath lab director," and "How to conduct multi-center research studies." Elchanan Bruckheimer, MD (Schneider Children's Medical Center, Israel) was the keynote speaker at this year's breakout session with his talk entitled,

"Bringing Holographic Imaging From the Idea to the Cath Lab." Dr. Bruckheimer discussed his pioneering work with developing and prototyping holographic imaging for real-time usage in the cardiac catheterization laboratory. He also touched on the importance of a team-based approach and humility to treating our more complicated patients. **PICES** was also fortunate enough to have a case presentation from Michael Seckeler, MD, MSc (Sarver Heart Center, Tucson, AZ) on fenestration creation in a failing Fontan. The case generated lively discussion from the audience and demonstrated numerous teaching points.

The group finished off the weekend with an educational lecture on the U.S. experience with the Gore Cardioform Septal Occluder by Joseph Paolillo, MD (Sanger Heart and Vascular Institute – Charlotte, North Carolina). Attendees were allowed to implant the cardioform septal occluder in porcine hearts. This was followed by a dinner sponsored by WL Gore.

The **PICES** group currently has over 120 members with representatives from the United States and around the world. **PICES** is very interested in establishing a greater membership outside of the United States to facilitate and foster international collaboration. There are no membership dues. The **PICES** email listserve is used for clinical discussion, planning projects, and as a forum for communication among its members and with the **PICES** Executive Board. The **PICES** website can be accessed from the **SCAI** homepage under the "About SCAI" section and "Committee" subsection.

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For further information, or to be added to the **PICES** list-serve, please contact Gareth Morgan at dr Garethmorgan@gmail.com. **CCT**

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CONGENITAL CARDIOLOGY TODAY
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Breakout Session- Innovations in Structural Heart Disease

By Kamel Shibbani, MD

The session on Innovations in Structural Heart Disease took place in the afternoon, and was divided into topics focusing on Mitral valve/Left atrial appendage disease and Tricuspid valve disease.

Within the Mitral valve/LA appendage session, different devices that are being tested were presented including: some preclinical devices, such as the Heart stitch, the Middle Peak Medical device used to replace the posterior leaflet, and the Mistral device.

Dr. Mark Reisman of the University of Washington Medical Center in Seattle, Washington talked about the mitral valve apparatus, and showed beautiful cadaveric pictures from the wet lab, which he used to discuss the anatomy of the mitral apparatus.

Following Dr. Reisman, Dr. Zoltan Turi from the Rutgers Medical School in New Brunswick, New Jersey, talked about the WATCHMAN device. He discussed what the FDA approval was regarding the device, the post procedure ischemic stroke risk with LAA occlusion, the device vs antiplatelet therapy, device vs NOAC, device vs device, and finally, PCI triple therapy vs Watchman device use.

As for tricuspid valve disease, Dr. Riesman again kicked off the session with an anatomical lesson of the RV and the tricuspid valve using cadaveric images. Dr. John Carroll from the University of Colorado in Aurora, Colorado, and one of the **PICS-AICS** Symposium Directors, then presented a brief case of tricuspid valve disease in an adult patient.

Dr. Hans Figulla, from the University Hospital Jena in Jena, Germany, was up next with a talk about Heterotopic valve replacement for severe TR in patients who are not candidates for surgical intervention. He talked about the need for intervention in such patients, and how there is a reproducible and persistent hemodynamic improvement following heterotopic valve replacement in such patients.

Dr. Scott Lim from the University of Virginia in Charlottesville, Virginia then gave a talk that bridged the mitral and tricuspid valve sessions by talking about his institution's experience in percutaneous valve repair for chronic TR using the Mitralign device – a device designed for mitral valve use!

Finally, Dr. Doff McElhinney from Stanford University in Palo Alto, California, talked about the valve-in-valve tricuspid technology for failed bioprostheses. Dr. McElhinney talked about the increase in the number of valve-in-valve cases being performed, and the simultaneous lack of dedicated TVIV devices. He talked about the valves used, such as the Sapien XT/3 valve and the Medtronic melody valve. Then he discussed the sizing of bioprosthetic surgical valves, as well as their possible orientation. TVIV vascular access and wire position where touched upon, as were rapid pacing and TEE/ICE use during TVIV deployment. Finally, Dr. McElhinney talked about a TVIV registry that his institution is creating to shed more light on TVIV. **CCT**

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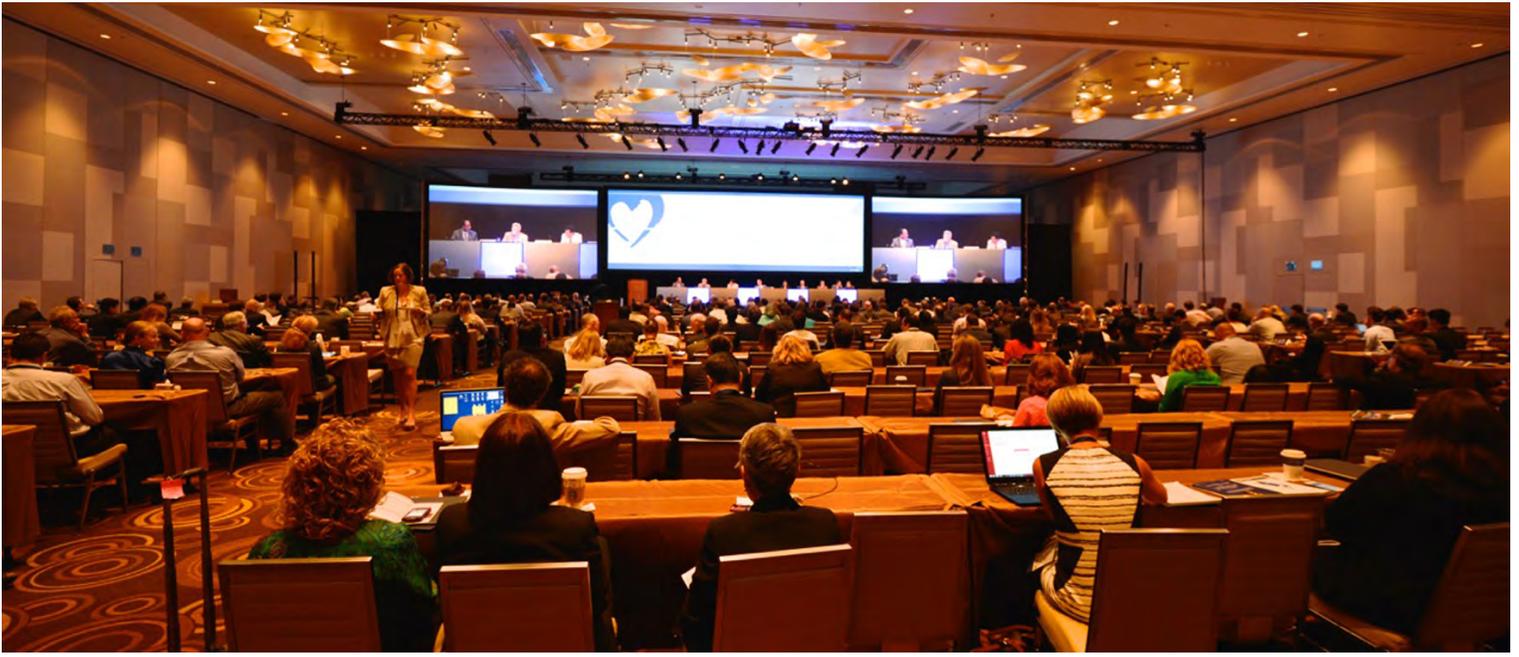


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