



SEPTEMBER 19<sup>th</sup> - SATURDAY

## Pre-PICS~AICS 2015 Imaging Symposium

By Karim Diab, MD



Due to the increased focus on imaging modalities, and the importance of imaging for the success of any intervention, this year **PICS** dedicated a separate session for an imaging symposium on Thursday that focused entirely on **Innovations in Imaging for Congenital and Structural Heart Disease Interventions**. This symposium was sponsored by Philips (Booth #303), Siemens (Booth #408) and Toshiba (Booth #401).

Dr. Aimee Armstrong talked about the use of 3DRA and Computational Fluid Dynamics (CFD) in the cath lab, which is a mechanical engineering field for analyzing fluid flow. CFD allows virtual stenting and surgical techniques. It allows to see the pressures, velocities and peak PG after virtual interventions. It is not yet commercially available, but will be soon. CFD has been used with CT and MRI, but recently Siemens introduced its use with 3D rotational angiography live, during the interventional procedure.

Dr. Tom Jones went over the use of intra cardiac echo (ICE) and its advantages for imaging during interventions. The ICE catheter introduced in 2000 as a 10 Fr probe by Accuson, then the 8 Fr probe was introduced by Siemens. Clinical application of ICE includes: its use in EP and interventional cardiology for PFO and ASD closure and left atrial appendage closure, and even assessing PV after transcatheter PV implantation or TV valve in valve replacement. ICE provides superior visualization of anatomy and devices, it does not need intubation, reduces fluoroscopy and contrast doses, and improves patient safety and recovery.



The 3D ICE probe is also providing promising results, and comes in the 10 Fr probe, but still has a limitation of the field of view. Dr. Jones mentioned that reesterilization is becoming possible, and will help decrease the cost by half.

Dr. Shyam Sathnandam talked about the role of multimodality fusion and 3D Infinix Toshiba imaging technologies in congenital cardiac catheterizations and interventions. This system provides the ability to do: 3D digital angiography, 3D digital subtraction angiography, 3D roadmap, multimodality fusion, low contrast imaging, low dose fluoro, spot tracking and others.

Dr. Sathnandam mentioned the use of specific protocols so as to avoid excessive radiation exposure with rotational angiography. Multimodality fusion allows to superimpose the 3D onto the 2D images. MR fusion provides the ability to do interventions without the use of contrast.

Dr. Frank Ing then presented the experience at Children's Hospital of Los Angeles on the use of the new Philips AlluraClarity system for radiation reduction. He showed that the dose area product with use of Clarity product decreases radiation by 39-67% in various interventional procedures. This again highlights the importance of deciding what system is chosen when building a new cath lab.

Dr. Tom Fagan went over multimodality 3D image integration during congenital cardiac catheterization.

Dr. Fagan mentioned the use of 3DAR road-mapping, which also allows to save on the use of radiation and contrast. He also went over the use of 3D TEE echocardiographic imaging registered with fluoroscopy, and the use of live 3D TEE overlay, as well as x-plane TEE overlay. **CCT**

## On The Scene: Live From PICS~AICS 2015 Day One

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 Briefing** 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!

Friday at **PICS~AICS 2015** marked the kick-off of the live cases transmitted from major centers around the world. Six cases were transmitted yesterday. From Riyadh, Saudi Arabia, Drs. M Aljufan, F. AlFadley and M. AlAhmadi attempted a hybrid PPIV, and also performed a case of percutaneous Fontan completion in a SV patient.

From Sao Paulo, Brazil, Drs. C. Pedra, S. Pedra and R. Costa performed closure of an interesting case of Aorto-Pulmonary window using a 7mm Flex II ASD Occluder. They also performed a case of branch PA stenting and ASD closure using the Figulla Flex II ASD Occluder.

From Cordoba, Argentina, Drs. Peirone and Ferrero and their team performed a ASD closure using the Nit-Occlud device in a 7 year-old who had attempted ASD closure in 2012, but resulted in 1st degree heart block and the procedure was then aborted, this time the closure went successfully with no complications, and the patient was in sinus rhythm. The issue of heart block after ASD closure has been reported in the literature, though quite rarely. They also performed a case of PFO closure using the new pfm Nit Occlud PFO device. The occluder consists of a single nitinol wire with a double-layer right atrial disc

and a single-layer left atrial disc. By the minimal amount of Nitinol in the LA, the thrombo-embolic risk is being reduced.

The popular Taped Case Sessions were presented during lunch with three taped cases discussed. Dr. B. Gordon from Loma Linda University, presented a case of pulmonary perforation in a case of pulmonary atresia intact septum. Dr. B. Goldstein from Cincinnati Children's Hospital presented a case of branch PA stenosis in a 30-year-old adult with pa/ivs s/p fontan, and Dr. J. Asnes from Yale University Medical Center, presented a case of a PVR and CAD in a 62-year-old with hx of TOF s/p repair and s/p ASD device closure.

The afternoon sessions on Friday included a session that focused on QA/QI issues for the cath lab and the new accreditation benchmarks for the cath lab that are evolving including review of the effect of IMPACT data, Multicenter QI initiatives and QA in developing countries. Another breakout session focused on the **PICES** projects, and went over topics such as holographic imaging in the cath lab, trachea-endotracheal stenting, and research updates.

The highlight of the afternoon was the session focusing on the collaboration between specialists in both congenital and structural interventions.

Dr. R. Hahn discussed the use of TEE, and what the congenital echocardiographers can show for the structural interventionalist. Dr. C. Kavinsky went over hemostasis devices, transeptal puncture and dual antiplatelet therapy. Dr. J. Aboulhosn discussed measuring shunts and flows. Dr. H. Sievert talked about the evolution of devices from PDA to VSD devices, and those for LAA and paravalvar leak, as well as TAVR valves. He highlighted improvements done throughout the years, as well as the still awaited improvements in many of the currently available devices, as there is always room for better technologies including: bioresorbable devices and better valves. Dr. F. Berger went over the use of stents and advanced angioplasty, and how it has altered the management of CHD. He talked about the risk of intimal hyperplasia associated with stenting, as well as the use of cutting balloons as a pretreatment approach followed, but stent



implantation and the role of absorbable polymer stents in neonates. Dr. T. Jones discussed the evolution of interventional transcatheter valve techniques and the challenges in developing those revolutionary ideas and getting them into real practice.

Friday finished with Oral Abstract Presentations with the best abstracts going forward to an abstract final presentation on Sunday at lunchtime. The day ended with the **PICS~AICS Award**. **CCT**

## PICS 2015 Achievement Award Goes to Dr. Joseph DeGiovanni!

By Karim Diab, MD

Dr. Joseph DeGiovanni, the new winner of the **PICS Achievement Award**, was honored at **PICS 2015** last night. This award is designed to encourage and recognize investigators who have contributed exceptionally to the field of interventional cardiology in congenital and structural heart disease. The first **PICS Achievement Award** was given in 1997 to Dr. C. Mullins. Other **PICS Awards** (not given on yearly basis) included: the **Pioneer Award** - first time given to Dr. T. King in 2007, who is noting this year the 40<sup>th</sup> anniversary for the first ASD device use; the **Founders Award**, given to Dr. Z. Hijazi in 2006, and the **Service Award** given to Sharon Cheatham in 2013.

Of note, the **PICS** course directors/co-directors do not influence the selection process of the winner at all! A committee makes the choice usually after few months from the end of the previous **PICS** meeting, and conveys to Dr. Hijazi the winner of the award after assessing the individual's impact and the contributions he/she has made in the field of congenital interventional cardiology.

### Highlights of this year's achievement award winner:

- Dr. DeGiovanni was born on March 15<sup>th</sup>, 1949 in Sliema, Malta.
- Married Josette, March 10<sup>th</sup>, 1974; 3 children and 6 grandchildren
- Attended St. Aloysius College (1958– 1967).
- First conference representing Malta at the **International Federation of Medical Student's Association** in Paris 1970.
- Attended the Royal University of Malta Medical School (1967-1973).
- Graduated in 1973, and moved to the UK in 1975.
- Passed MRCP (UK) in 1976.
- FRCP (UK) in 1991 and FRCPCH in 1999.
- Moved to Birmingham, and worked as SHO in Medicine, Cardiology and Endocrinology, and then as Registrar up to March 1979.
- April 1979 for 6 months - SHO post in Paediatric Cardiology at Brompton Hospital.
- 1979–1983: Back to Birmingham and worked in adult cardiology, and then with Dr. Eric Silove, as Senior Registrar in Paediatric Cardiology.
- From 1983 on – appointed as Consultant Paediatric Cardiologist at Birmingham Children's Hospital.
- Awarded **Order of Merit** by the President of Malta in 1994 for setting up cardiac services in Malta and training staff.



# SATURDAY

- Awarded the title of Visiting Professor of the University of Malta in 2013.
- **Griffiths Prize for Anatomy** in 1970, distinction in pathology, medicine, surgery and obstetrics & gynecology.
- 1974 – awarded Commonwealth scholarship for further training in Medicine and Cardiology.
- 1997 – British Council lectureship to India and Pakistan.

## Interests:

- Interventional cardiology
- Echocardiography
- Arrhythmia Therapy (Pharmacological, Pacing, Defibrillation and Ablation, sudden death clinics)
- Adult Congenital Heart Disease
- Hypertension in children
- Intervention for non-coronary structural heart disease

## Techniques introduced at Birmingham Children's Hospital:

- Transvenous pacing in 1981.
- Blade septostomy in 1982.
- Balloon angioplasty in 1983.
- Myocardial biopsy in children in 1984.
- Electrophysiology studies in 1985.
- Opened adolescent ward in 1986.
- Introduced a new technique in the unit every year.
- Consultancy for:
  - CARAG
  - AGA Medical
  - Studies for Gore, NMT
- Proctor for Rashkind double umbrella device in UK, India, Finland, Egypt and Malta.
- Trainer for ASDOS device.
- Proctor for Amplatzer, Helex, StarFlex devices
- Still proctors colleagues for post-MI VSD closures, closures of PVL and LAA.
- Council member of **BCCA** from 1997.
- 2006 – 2009: Treasurer **BCCA**.
- 2007 – 2012: Scientific Secretary **AEPC**.
- Published over 160 papers in various aspects of CHD, including interventions and electrophysiology.
- Nearly 600 lectures at national and international conferences.
- 2010: Led mission to Durban – raised money for disposables and worked with local charity to provide new services for disadvantaged children and involved local cardiologists to learn procedures.

## International Recognition

- Teaches interventions on a regular basis at teaching workshops/ symposia/congresses with live case transmissions throughout the world (**PICS**, **CSI**, other international conferences).
- Makes important contributions and commitments to support colleagues everywhere.
- Committed to development of interventional services throughout the world.
- Trained a large number of doctors everywhere.

## Other interests:

- Tennis
- Deep sea fishing
- Sailing
- Occasionally oil painting
- Traveling. **CCT**

## Don't Miss These Sessions at PICS~AICS 2015: Sneak Peek at Day 2 (Saturday)!

By Karim Diab, MD

On Saturday, make sure not to miss the first lecture of the day with Dr. Terry King talking about ASD closure, marking the 40<sup>th</sup> year anniversary on this revolutionary idea and technique.

The live case transmissions will then continue in the morning with another set of about 6 cases transmitted live. The live cases will include the following:

- **From Mumbai, India:** Drs. B. Dalvi, P. Kerkar, R Pinto will perform cases including: ASD closure using the Amplatzer Septal Occluder with Balloon Assisted Technique, closure of ruptured sinus of Valsalva with amplatzer Duct Occluder.
- **From Las Vegas, Nevada:** Drs. A Galindo and A Rothman will attempt percutaneous placement of an Edwards Sapien valve, and a case of closure of perimembranous VSD using the Amplatzer Duct Occluder II.
- **From San Diego, California:** Drs. J. W. Moore and H. AlSaid will perform 2 cases of occlusion of arterial feeders of AVM, and a case of Melody valve implantation.

There will be more taped cases presented at the lunch break. The afternoon will include 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. The latter will go over several issues pertaining to hybrid interventions, including 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 will end with the “Meet the Experts” session, which allows attendees to discuss cases with the experienced faculty in an interactive format. **CCT**



## Breakout Session on Quality Assurance and Quality Improvement (QA/QI) in the Cath Lab

By Kamel Shibbani, MD

Dr. Ralf Holzer kicked off the session by defining the terms QA and QI; Quality Assurance being the compliance with an existing standard of care, and Quality Improvement being the use of standard methodology to improve upon the care being delivered. Dr. Holzer noted some difficulties in QA/QI within the congenital cath lab setting such as non-standardized nomenclature, absence of adjustments for complex cases, absence of definition of complications, and others. Dr. Holzer then suggested several methods of performing QI/QA for congenital cath labs and stressed upon accreditation and the use of registries to achieve that goal.

Picking up where Dr. Holzer left off, Dr. Larson gave a talk about accreditation of congenital cardiac cath labs. Dr. Larson talked about the value of accreditation and mentioned a survey wherein 90% of institutes that had been accredited claimed that they felt that the accreditation process improved quality of care, and that it improved morale and confidence in the cath lab leadership. Dr. Larson concluded by stressing the importance of accreditation for the Adult Congenital Heart Disease cath labs.

Next, Dr. Vincent talked about the IMPACT (IMproving Pediatric and Adult Congenital Treatments) Registry. He discussed the shy start, the exponential growth (from 2 centers in 2010 to around 100 in 2015), as well as inconsistencies of data reporting encountered with version 1 of the registry, and how such issue will be remedied in version 2.

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Next up, Dr. Bergersen took to the podium to talk about the registry C3PO. She discussed the goals of C3PO and how registries such as C3PO are moving more towards having

common nomenclature, methods and established measurements. She identified the potential of using C3PO for risk assessment, and establishing new benchmarks for QI, as well as the importance of registries in allowing for patient centered care, risk reduction, and prediction practices, not possible with single centers.

Dr. Garay followed with a talk about QI/QA in developing countries. Using Chile as an example, he concluded that when resources are limited, the best way to perform QI/QA is through well-trained professionals, involvement of local and governmental authorities, producing and indorsing local safety and procedural guidelines, as well as participating in academic activities.

The final talk was given by Dr. Glatz, and was an example of how QA/QI can have a tangible impact on patients. Dr. Glatz talked about the use of QA/QI to decrease radiation exposure to both patients and cath lab staff. Using data from Children’s Hospital of Philadelphia, (CHOP), he demonstrated a significant reduction in radiation exposure levels before and after introduction of QA/QI. **CCT**



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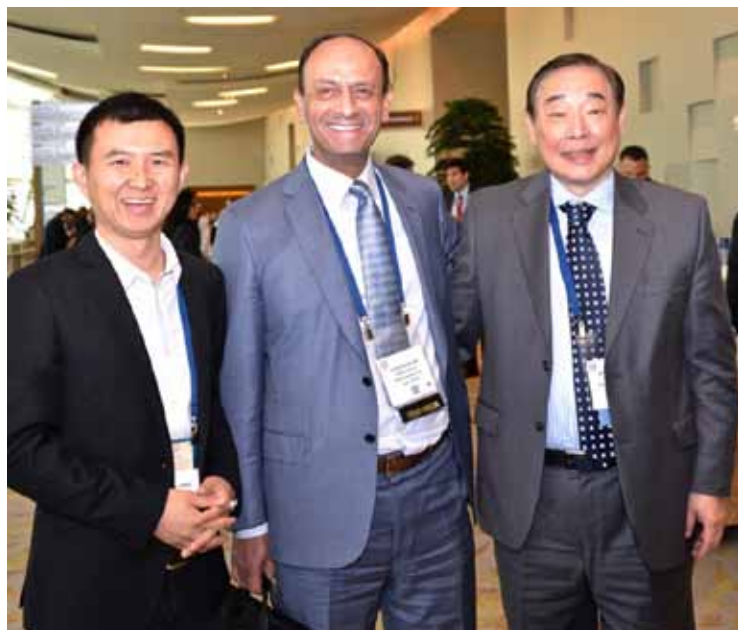
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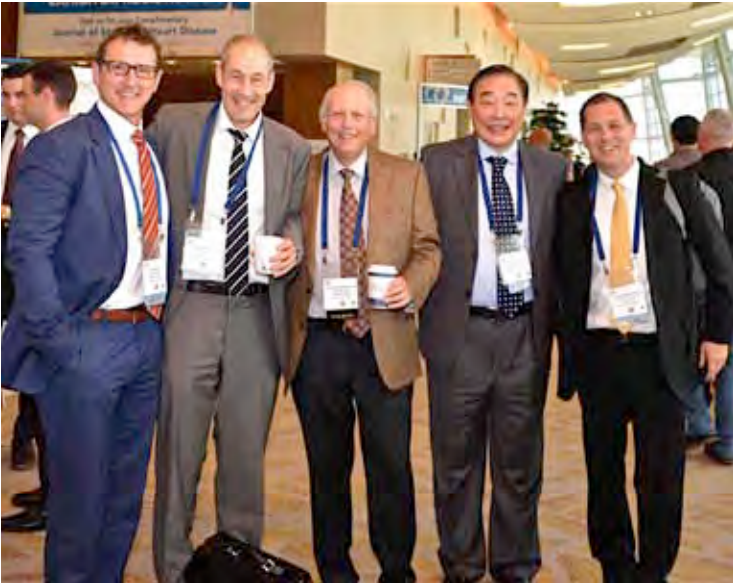
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# SATURDAY



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