



SUNDAY - (ICISCIT at PICS)

PREVIEW OF THE IMAGING IN CONGENITAL & STRUCTURAL CARDIOVASCULAR INTERVENTIONAL THERAPIES (ICISCIT) AT PICS

By Karim Diab, MD

This year at PICS marks the expected (and inevitable!) incorporation of the imaging session (ICSCIT) into the PICS symposium with the full first day of PICS dedicated to imaging techniques. This full day will provide a comprehensive review of interventional imaging in Congenital Heart Disease.

Set forth below is a brief summary of the schedule of events offered throughout the day.

The imaging symposium will begin with an overview session that will focus on when and why to use various imaging modalities in planning interventional procedures in CHD. This will include a discussion on the use of:

- 2D and 3D TEE (Dr. C. Fleishman);
- TEE (Dr. G. Shirali);
- MRI (Dr. M. Fogel);
- CT angiography (Dr. A. Hlavacek)
- ICE (Dr. Q. Cao).

Dr. Cao's session will be followed by an interesting discussion on the intra-team dynamics during the actual interventional procedures.

Dr. K. Kumar will first discuss what the interventionalist needs from the echocardiographer. Then, Drs. N. Silverman, G. Wernovsky and M. Ilbawi will discuss what the echocardiographer, the intensivist and the surgeon need from their interventionalist, respectively.

This overview session will be followed by a special session that focuses specifically on the atrial septum. Dr. P. Weinberg will discuss the anatomy of the atrial septum, and then Dr. K. Kumar will discuss selection criteria for ASD device closure. Echocardiographic guidance of ASD closure will be presented by Dr. G. Shirali using TEE, and by Dr. Q-L Cao using ICE. Dr. S. Kim will then talk about patient follow-up post device closure.

The morning and afternoon will continue with sessions on closure of specific defects. You will notice that these sessions will begin with a valuable anatomic/pathologic review (by Dr. P. Weinberg) followed by various lectures on the latest imaging modalities and techniques.

At 10:30 am, a session on ASD and PFO closure will begin. After an anatomic review, Dr. A. Ludomirsky will discuss how to select the appropriate candidate for closure. Dr. C. Fleishman will go over the echo appearance of the various devices used. This will be followed by discussion of the role of TEE and ICE during the procedure by Drs. C. Fleishman and J. Rhodes, respectively. Dr. D. Balzer will then discuss the benefits of using fluoroscopy during PFO/ASD closure.

The early afternoon session will start at 12:15 pm with emphasis on the ventricular septum. Here again, Dr. P. Weinberg will start with an anatomic overview followed by Dr. J. Masura who will explain how to select the appropriate candidates and Dr. Z. Amin who will provide an overview of the echo appearance of the various VSD devices. Dr. Dr. M. Carminati will then discuss the role of TEE during percutaneous VSD closure. With the hybrid procedures becoming an attractive solution to complex structural heart lesions, particularly complex muscular VSDs, Dr. G. Lane will go over the role of TEE in guiding percutaneous closure of such defects. The session will end with a discussion on the highly complicated cases of post-infarct VSDs presented by Dr. J. DeGiovanni.

The afternoon will then continue with a session on the percutaneous valve and imaging of the LAA. This will include:

- Discussions on the implantation of the pulmonary valve (by Dr. M. Fogel);
- Repair of the mitral valve (by Dr. R. Siegel);
- Repair of TAVR (by Dr. R. Makkar);
- LAA closure (Dr. S. Kar).

This will be followed by a session on paravalvar leaks with Dr. R. Siegel focusing

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on 2D and 3D imaging, Dr. C. Ruiz discussing the role of CT in evaluating these leaks and Dr. R. Ibrahim discussing the fluoro and echo guidance of the procedure.

After these lectures, the afternoon will be marked by the first PICS hot debate with Dr. C. Zabal and A. Ludomirsky debating for and against the use of ICE vs TEE for ASD closure in children, respectively.

The imaging symposium will end with a discussion about the new imaging modality in the cath lab: 3D rotational angiography, which will be presented by Dr. E. Zahn.

Finally, the day will end with oral abstract presentations given by junior colleagues. Please attend and support their work. After the end of the day's session, join your fellow attendees in the Galleria Exhibit Hall for a welcoming reception. *Hope to see you there!!*

BRIEF RECAP OF SATURDAY'S INDUSTRY WORKSHOPS

By Karim Diab, MD

The Saturday session of PICS-AICS was comprised solely of workshops that focused on the discussion of transseptal access, Amplatzer devices and PFO/stroke prevention.

The day started with the Cook Medical workshop focusing on transseptal technique. The day started with the Cook Medical workshop focusing on transseptal technique. Drs. I. Palacios and J. Cheatham went over the technique involved as well as the various indications for performing transseptal access in order to gain access to the left atrium even for unusual cases such as ballooning MV prostheses, aortic valvuloplasty and coarctation. The lecturers also provided special tips and tricks for successful transseptal access, including how to perform the procedure when faced with a bulging septum as may be the case with a patient with severe MS. They also went over possible complications and how to avoid them. Although not mandatory, the use of echo guidance, especially TEE or ICE, helps orient the transseptal needle, avoids potential complications and makes the procedure safer in certain cases.

The workshop also included a hands-on session using an actual model with Dr. Cheatham proctoring attendees, and Dr. Cao guiding imaging with ICE. For those of you who wish to have further hands-on experience, there is a sign-up list for



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sessions through Sunday, Monday and Tuesday provided by Cook.

The second workshop sponsored by St. Jude Medical (AGA Medical) focused on Amplatzer devices. The continued success of various Amplatzer devices was again presented. Dr. W. Hellenbrand presented an interesting global summary of the rare risk of erosion complications with the ASD Amplatzer device. He noted that cardiac tissue erosion complications occurred in 74 total cases (rate 0.14%) worldwide. The erosions involved mainly the superior aspect of the right or left atrium with further erosion into the adjacent aorta in the majority of cases. The root of the cause for these erosions was mainly a deficient anterior-superior aortic rim with a trend of the erosion to occur early in pediatric patients (within 72 hrs.) and late (>3 days) in adult cases. Interestingly, there was no trend noted between erosion and oversizing.

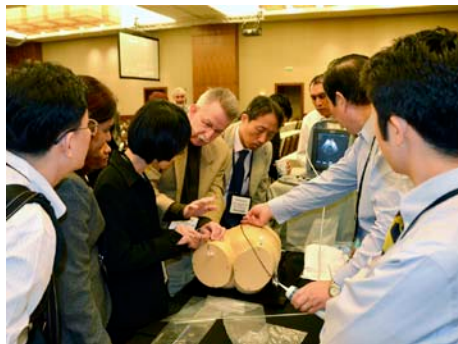
The newer Amplatzer Duct Occluder II device was also presented by Dr. K. Walsh. This device, not yet available in the US, was specifically created to address the varying anatomies of the ductus as represented by the Krichenko scale, and is particularly suitable to tubular ducti seen in premature infants. It also allows treatment of larger ducti in smaller babies.

The second workshop ended with a presentation on the latest Amplatzer Membranous VSD Occluder 2. Dr. J. DeGiovanni presented this device, which is not yet available commercially. The device is tailored to conform to the ventricular anatomy with a left disc that is elliptical and concave in shape. It is designed to increase overall stability while minimizing pressure on the septal tissue as its dual-layer waist imparts minimal radial pressure against the defect and the 3mm waist length reduces clamp pressure “pinching” on the septal wall. Studies in animals were encouraging, and the world’s first implant done successfully in a 6 y.o girl at Montreal Heart Center was presented during the workshop. Further human implants will start in summer 2011.

The last workshop presented by Gore focused on PFO and stroke prevention. After brief remarks from Dr. Z. Hijazi, the workshop covered the history of PFO and its relation to stroke by Dr. Rhodes. Dr. Thaler, a neurologist at Tufts, presented a nice overview of the PFO/stroke studies, and risk of recurrence with the controversial issue of the cause effect of PFO and stroke. Dr. Kar summarized the recent results of the CLOSURE 1 study. This is the first prospective, randomized controlled trial to evaluate the safety and efficacy of the STARflex device vs best medical therapy in patients with stroke of TIAs due to paradoxical embolism through a PFO. In summary, the study included 909 patients who had definite TIA (lasting at least 10min) or stroke. The procedure success rate was about 90% with effective closure rate of 87% with the device at 6 mo. The trial, however, unexpectedly showed that STARFlex plus



Panel at the Gore stroke prevention workshop



Cook transeptal model: Dr. J. Cheatham proctoring while Dr. Q. Cao using ICE.



Let-to-right: Dr. Ziyad M. Hijazi, Kurt Amplatz and Dr. William E. Hellenbrand



The new paramembranous VSD Occluder II from AGA.

medical therapy did not offer any significant benefit over medical therapy alone for the prevention of recurrent stroke or TIA in patients <60 up till 2 yrs. of follow-up.

Dr. Lasala discussed the potential impact of those results on clinical practice. He pinpointed a few concerns with the study

statistics, and noted that the majority of the stroke endpoint events during follow-up appeared to have a determinate origin, suggesting that those cases likely had alternative explanation for their stroke. He pointed that the patient population needs to be better defined in order to filter and refine the study design so as to eliminate selection bias, with better screening to assure true CVAs are included, and other etiologies, such as atrial fib. and thrombophilia, are ruled out. This would help define which patients would benefit from the procedure. He pointed out that the results of the much-awaited RESPECT study using the Amplatzer device could be different from those of CLOSURE I. The workshop also discussed the challenges to enroll patients in clinical trials as well as the patient perspective on the matter. There will be more to come on the PFO/stroke subject will be during the mini PFO summit at PICS on Tuesday afternoon.

Handy Floor Plan of Exhibit Hall for PICS Meeting

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