

17TH ANNUAL CANADIAN ECHO WEEKEND
APRIL 23-25, 2015
TORONTO, ON

Session Title:

ECHO IN CARDIAC INTERVENTIONS “Plugging Things Up: LAA closure
(Watchman® and ACP® Devices)

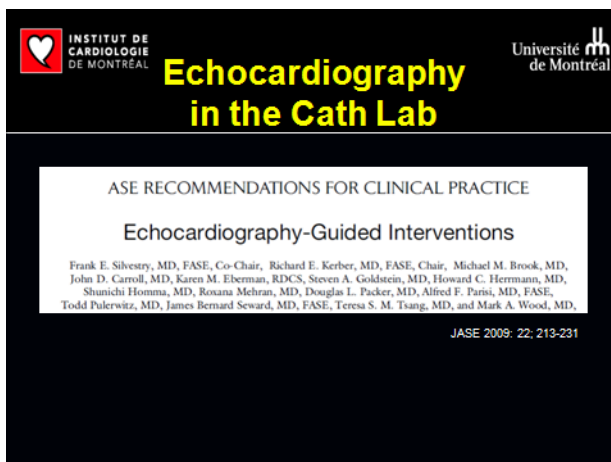
Presenter/Author:

Arsène J. Basmadjian

OBJECTIVES:

- **Review the role of echocardiography (TEE) for assessment of potential candidates for transcatheter left atrial appendage (LAA) closure procedures.**
- **Discuss the role of TEE during transcatheter LAA closure procedures.**
- **Review the role of post procedural echocardiography to assess device function (success) and rule out complications.**

DISCUSSION:



**INSTITUT DE
CARDIOLOGIE
DE MONTRÉAL**

**Echocardiography
in the Cath Lab**

Université
de Montréal

ASE RECOMMENDATIONS FOR CLINICAL PRACTICE

Echocardiography-Guided Interventions

Frank E. Silvestry, MD, FASE, Co-Chair, Richard E. Kerber, MD, FASE, Chair, Michael M. Brook, MD, John D. Carroll, MD, Karen M. Eberman, RDCS, Steven A. Goldstein, MD, Howard C. Herrmann, MD, Shunichi Homma, MD, Roxana Mehran, MD, Douglas L. Packer, MD, Alfred F. Parisi, MD, FASE, Todd Pulerwitz, MD, James Bernard Seward, MD, FASE, Teresa S. M. Tsang, MD, and Mark A. Wood, MD.

JASE 2009; 22: 213-231

Echo in the Cath Lab

EXPERT CONSENSUS STATEMENT

EAE/ASE Recommendations for the Use of Echocardiography in New Transcatheter Interventions for Valvular Heart Disease

Jose L. Zamorano^{1,2}, Luigi P. Badano³, Charles Bruce⁴, Kwan-Leung Chan⁵, Alexandra Gonçalves⁶, Rebecca T. Hahn⁷, Martin G. Keane⁸, Giovanni La Canna⁹, Mark J. Monaghan⁹, Petros Nihoyamopoulos¹⁰, Frank E. Silvestry¹¹, Jean-Louis Vanoverschelde¹², and Linda D. Gillam¹³, Rochester, Minnesota; Ottawa, Ontario, Canada; Paris, Portugal; New York, New York; Philadelphia, Pennsylvania; London, United Kingdom; Brussels, Belgium; Morristown, New Jersey

Eur Heart J 2011 32; 2189-2214
J Am Soc Echocardiogr 2011;24:937-65

LAA Transcatheter Occlusion

- Patients with Atrial Fibrillation
- High embolic risk
- Contra-indication to chronic anticoagulation

or with an appropriate rationale to seek a non-pharmacologic alternative to warfarin

LAA Transcatheter Occlusion



INSTITUT DE CARDIOLOGIE DE MONTRÉAL **LAA occlusion - Sizing** **Université de Montréal**

CLINICAL RESEARCH
 Intra-procedural imaging of the left atrial appendage: Implications for closure with the Amplatzer™ cardiac plug

Agus Salazar¹, Agostino Tassin¹, Jean-François Lespérance¹, Alicia Hubner¹, Jean Chab¹, Patrick Garcia¹, Kadi Brahmi¹, Amir J. Barmad¹

A 90° **B** 120° **RAO – Cranial 20°**

The LAA is assessed in multiple TEE views (examples, panel A 90°, panel B 120°). The diameter of the LAA ostium (LAA-O), (dotted white line) is measured from the proximal aspect of the origin of the circumflex artery (black arrow) to the tip of the ligament of Marshall (white arrow). The diameter of the LAA at a depth of 10 mm from the ostium representing the lobe landing zone (LAA-L), (white line), and the LAA depth are also measured.

Angiography of the LAA is performed in the RAO – Cranial 20° projection. The diameter of the LAA ostium (dotted white line) and the LAA size at a depth of 10 mm from the ostium (white line) are measured. Contrast injection and calibration are done using the marker pigtail catheter.

INSTITUT DE CARDIOLOGIE DE MONTRÉAL **LAA closure with ACP in patients with contraindication to ACO** **Université de Montréal**

CLINICAL RESEARCH **Mini-Percut Left Atrial Closure in Atrial Fibrillation**

Percutaneous Left Atrial Appendage Closure With the AMPLATZER Cardiac Plug Device in Patients With Nonvalvular Atrial Fibrillation and Contraindications to Anticoagulation Therapy

Marina Urena, MD¹, Josep Rodó-Cabas, MD², Xavier Frutos, MD³, Jaqueline Saw, MD⁴, John G. Webb, MD⁵, Mhairi Freeman, MD⁶, Eric Hoekel, MD⁷, Mark Olson, MD⁸, Albert Chau, MD⁹, Jean-François Manon, MD¹⁰, Jean Champagne, MD¹¹, Reza Brahmi, MD¹²
 Québec City, Québec, Montréal, Québec, Vancouver, British Columbia, Toronto, Ontario, and Ottawa, Ontario, Canada

Objectives The aim of this study was to evaluate the results associated with left atrial appendage closure (LAAC) with the AMPLATZER Cardiac Plug (ACP) in high-risk patients with nonvalvular atrial fibrillation and absolute contraindications to anticoagulation therapy.

Conclusions In patients with nonvalvular atrial fibrillation at high risk of cardioembolic events and absolute contraindications to anticoagulation, LAAC using the ACP device followed by dual-/single-antiplatelet therapy was associated with a low rate of embolic and bleeding events after a mean follow-up of 20 months. No cases of severe residual leak or device thrombosis were observed at the 6-month follow-up. (J Am Coll Cardiol 2013;62:96-102) © 2013 by the American College of Cardiology Foundation

Conclusions In patients with nonvalvular atrial fibrillation at high risk of cardioembolic events and absolute contraindications to anticoagulation, LAAC using the ACP device followed by dual-/single-antiplatelet therapy was associated with a low rate of embolic and bleeding events after a mean follow-up of 20 months. No cases of severe residual leak or device thrombosis were observed at the 6-month follow-up. (J Am Coll Cardiol 2013;62:96-102) © 2013 by the American College of Cardiology Foundation.

INSTITUT DE CARDIOLOGIE DE MONTRÉAL **Prospective Randomized Evaluation of the Watchman Left Atrial Appendage Closure Device in Patients With Atrial Fibrillation Versus Long-Term Warfarin Therapy** **Université de Montréal**

ORIGINAL INVESTIGATION **The PREVAIL Trial**

David R. Holmes Jr, MD¹, Galen S. Hill, MD², Matthew J. Price, MD³, Brad Whitworth, MD⁴, Grant Swann, MD⁵, Deyral K. Doshi, MD⁶, Kenneth Huber, MD⁷, Frank S. Budde, MD⁸

ABSTRACT

BACKGROUND In the PROTECT AF (Watchman Left Atrial Appendage Closure Technology for Embolic Protection in Patients With Atrial Fibrillation) trial that included patients with atrial fibrillation (AF), left atrial appendage (LAA) occlusion was noninferior to warfarin for stroke prevention, but a periprocedural safety hazard was identified.

OBJECTIVES The goal of this study was to assess the safety and efficacy of LAA occlusion for stroke prevention in patients with AF compared with long-term warfarin therapy.

METHODS This randomized trial further evaluated the safety and efficacy of the Watchman LAA closure device in patients with AF compared with long-term warfarin therapy (control group).

RESULTS At 18 months, the rate of the primary end point (stroke, systemic embolism, or cardiovascular/unexplained death) was 0.064 in the Watchman group versus 0.063 in the warfarin group (95% CI upper bound -1.75).

CONCLUSIONS In this trial, LAA occlusion was noninferior to warfarin for stroke prevention in AF. The periprocedural safety hazard was not observed for stroke prevention, even when warfarin was used concurrently with the Watchman device. This trial provides additional data that LAA occlusion is a reasonable alternative to warfarin for stroke prevention in patients with AF who do not have absolute contraindications to short-term warfarin therapy. (J Am Coll Cardiol 2014;53:111-121) © 2014 by the American College of Cardiology Foundation.

TABLE 2 Coprimary Efficacy Endpoint Results (Stroke, Systemic Embolism, or Cardiovascular/Unexplained Death)

Device	Control	18-Month Rate	Rate Ratio Noninferiority Criterion
18-Month Rate	0.063	0.064	1.07 (0.57, 1.89)
Rate Ratio Noninferiority Criterion			95% CI upper bound <1.75

CI = credible interval.

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 JULY 8, 2014:11-12

CONCLUSIONS:

- Echocardiography is essential for the evaluation of patients being considered for LAA transcatheter procedures.
- Echocardiography is critical for candidate selection, for periprocedural guiding, to assess procedural success and to rule out complications.