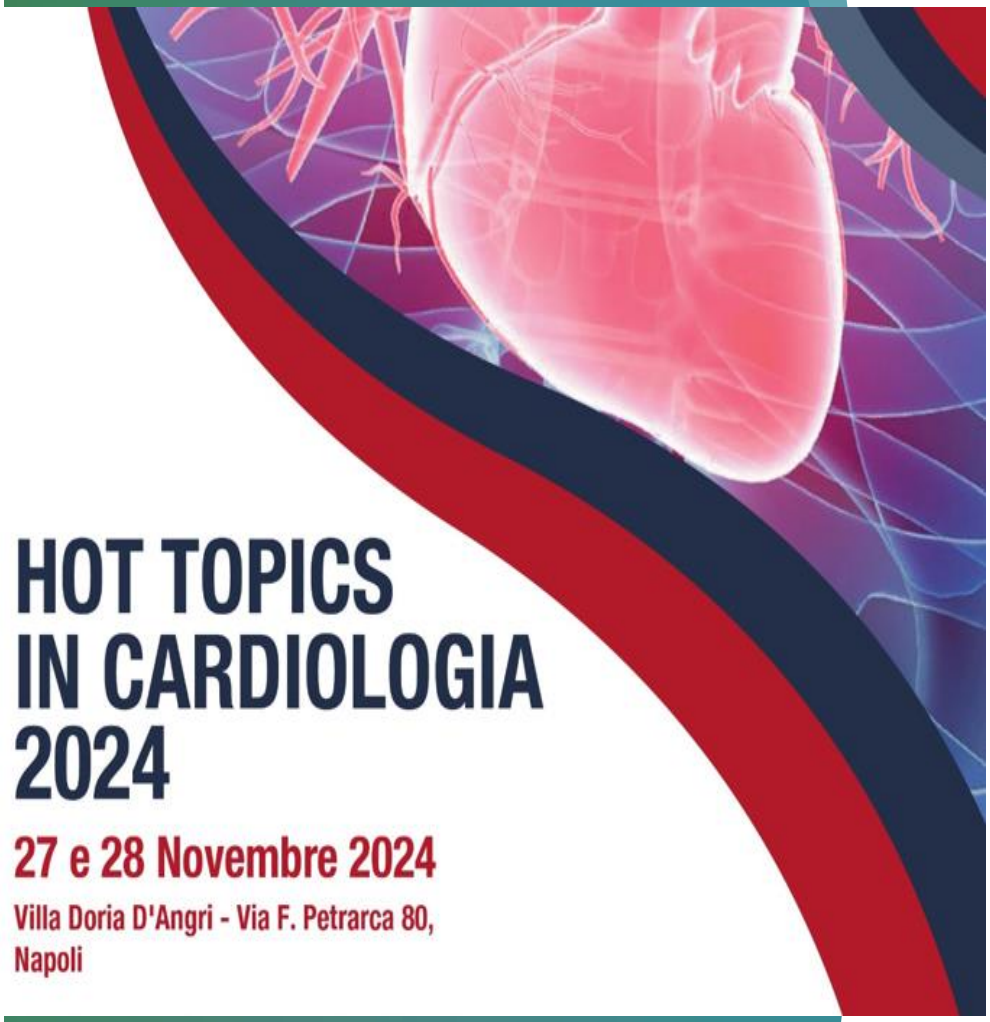

Chiusura Auricola sn: esperienza in centri privi di Cardiochirurgia

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Osp. "Umberto I" – Nocera Inferiore (SA)
ASL Salerno

Caso clinico

V.R., ♂ aa 83

F.d.R.:

- DMNID
- Ipertensione Arteriosa
- Dislipidemia mista
- Ex fumo

Anamnesi

- K vescica (TURB ripetute, cicli chemio locale)
- Aterosclerosi diffusa, pregresso ACV
  - OT ICA Dx, stenosi moderata ICA sn
  - Pregresso By-pass Iliaco femorale
- FA ricorrente in NAO
  - ***N.B. CHADSVasc: 8***
  - ***HASBLED: 4***

V.R., ♂ aa 83

2/2024 accesso al PS:

Ematemesi FA ad elevata risposta e insufficienza cardiaca

ECG: FA elevata risposta ventricolare, BBDx, sottoslivellamento diffuso ST

Ecocardiogramma: FE 20% ipocinesia diffusa

N.B.: ultima visita cardiologica 9/2023:

ECG: RS, BBDx, ripolarizzazione normale

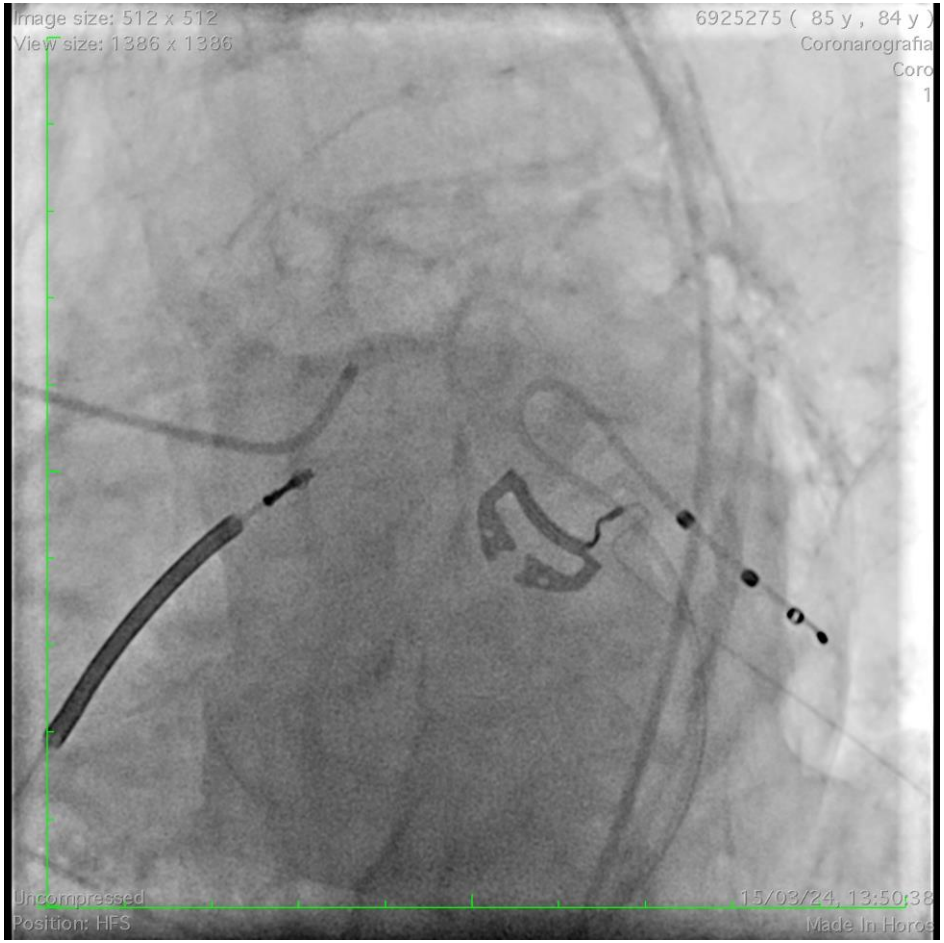
Ecocardiogramma: FE 60%

–

V.R., ♂ aa 83

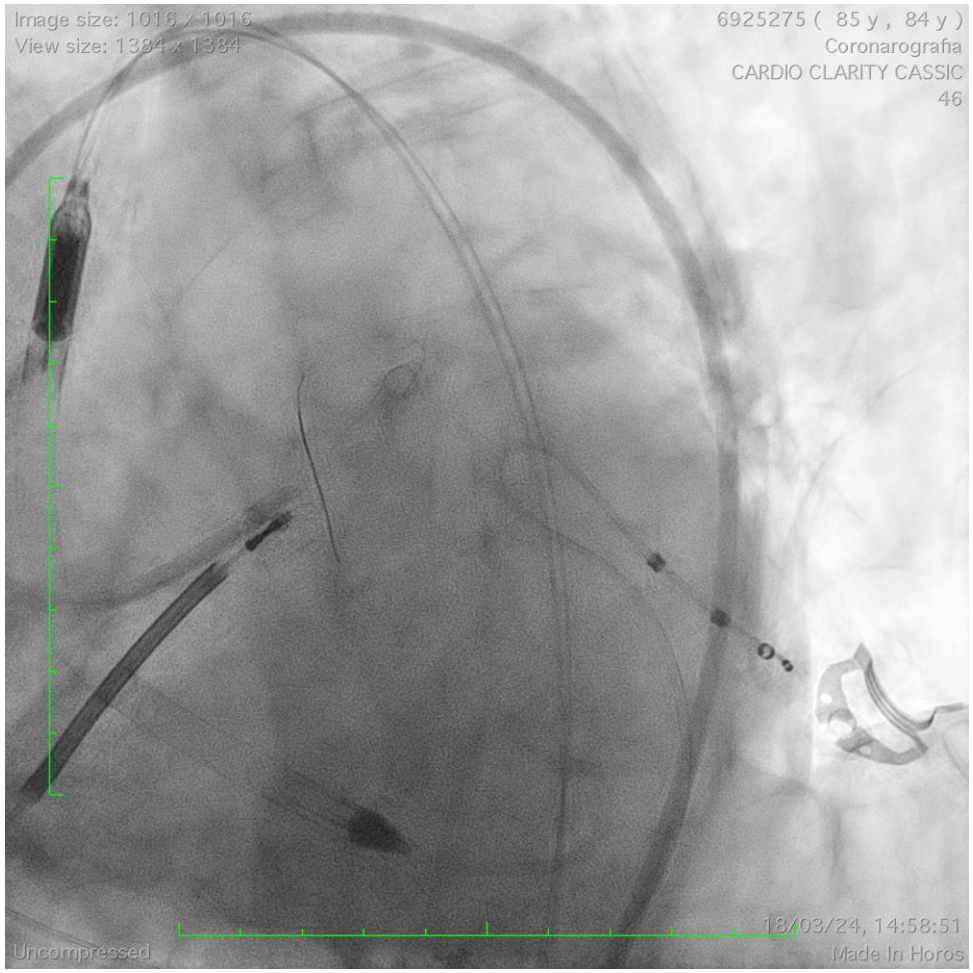
- **riparazione endoscopica** in urgenza di lesione ulcerativa esofagea sanguinante con clips
- emotrasfusioni
- **ricovero in UTIC** per stabilizzazione quadro di insufficienza cardiaca
- **ablazione NAV e impianto CRT-D**
- **Coronarografia:**
  - Malattia eccentrica calcifica del TCCSn: valutazione IVUS MLA < 4 mmq
  - FE 25%
- **PTCA su TCCSn** (assistenza ventricolare sn con Impella CP)

V.R., ♂ aa 83



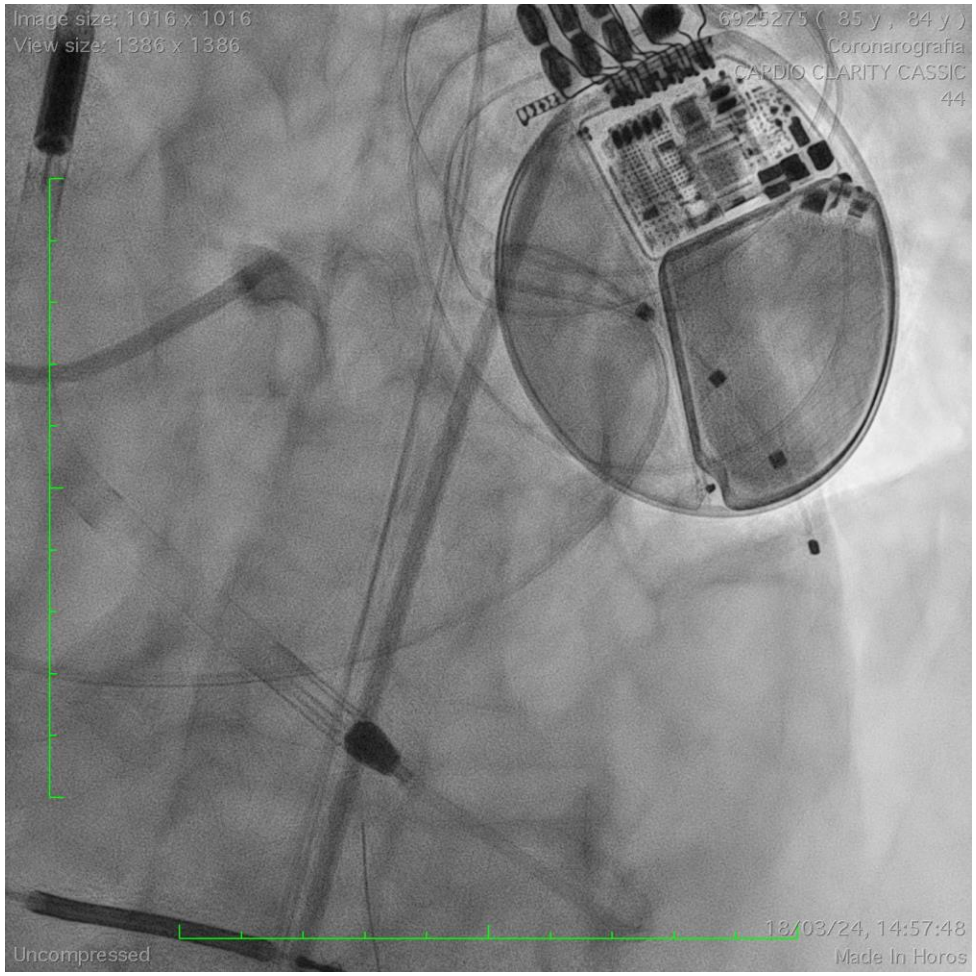
PTCA su TCCSn
(assistenza ventricolare sn con Impella CP)

V.R., ♂ aa 83



PTCA su TCCSn
(assistenza ventricolare sn con Impella CP)

V.R., ♂ aa 83

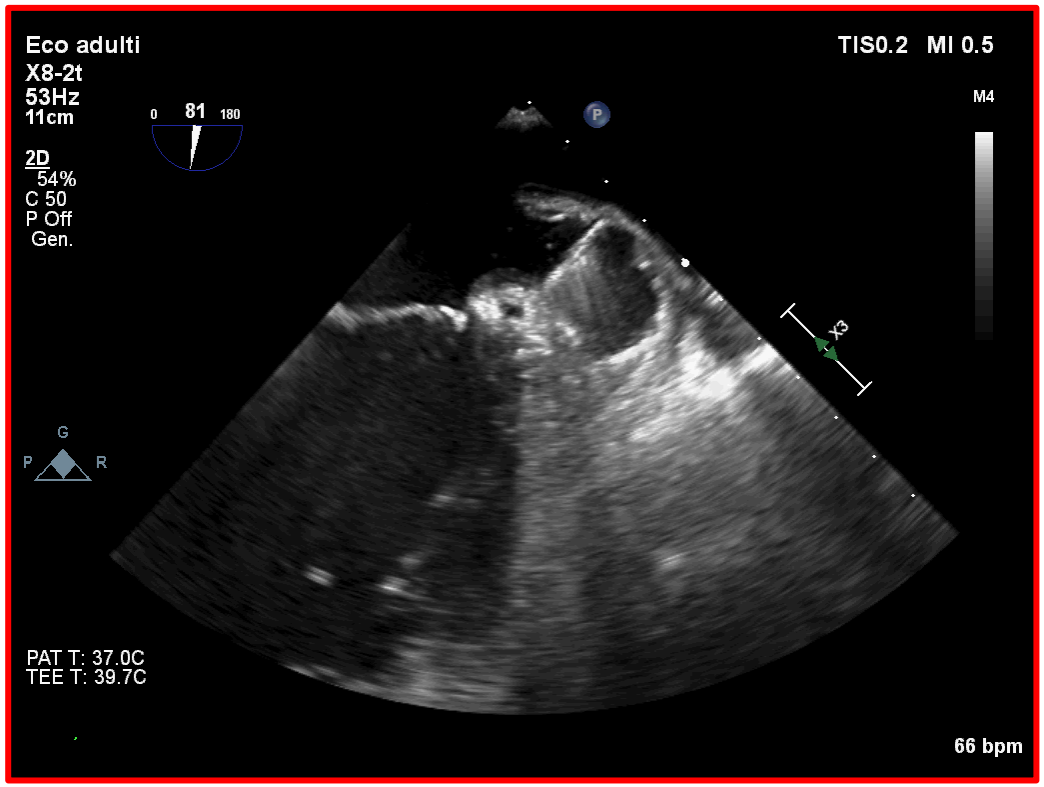


PTCA su TCCSn
(assistenza ventricolare sn con Impella CP)

V.R., ♂ aa 83

- FA in NAO
- DAPT per PTCA su TC
- Elevato rischio ischemico ed emorragico (CHADS VASc 8, HAS BLED 5)

LAAC
Watchman FLX 27



V.R., ♂ aa 83

- Deterioramento emodinamico improvviso, con PEA
- RCP
- Evidenza di versamento pericardico tamponante
- Pericardiocentesi con stabilizzazione del paziente e trasferimento in rianimazione
- Nei giorni successivi deterioramento delle condizioni emodinamiche fino all'exitus

Device impiantati

WATCHMAN (FLX)	66	
FLX 20	9	14%
FLX 24 (1 gen)	24 (3)	36%
FLX 27 (1 gen)	19 (4)	29%
FLX 31	12	18%
FLX 35	2	3%

Procedure LAAC

Pazienti	67	
Successo impianto	66 #	98.5%
Embolizzazione	0	
Versamento pericardico	1	1.49%
Arresto Cardiaco	1	1.49%
Ictus Cerebri *	1	1.49%
Morte **	2	2,98%
Sanguinamenti maggiori	0	
TOT complicanze periprocedurali	2	2.98%

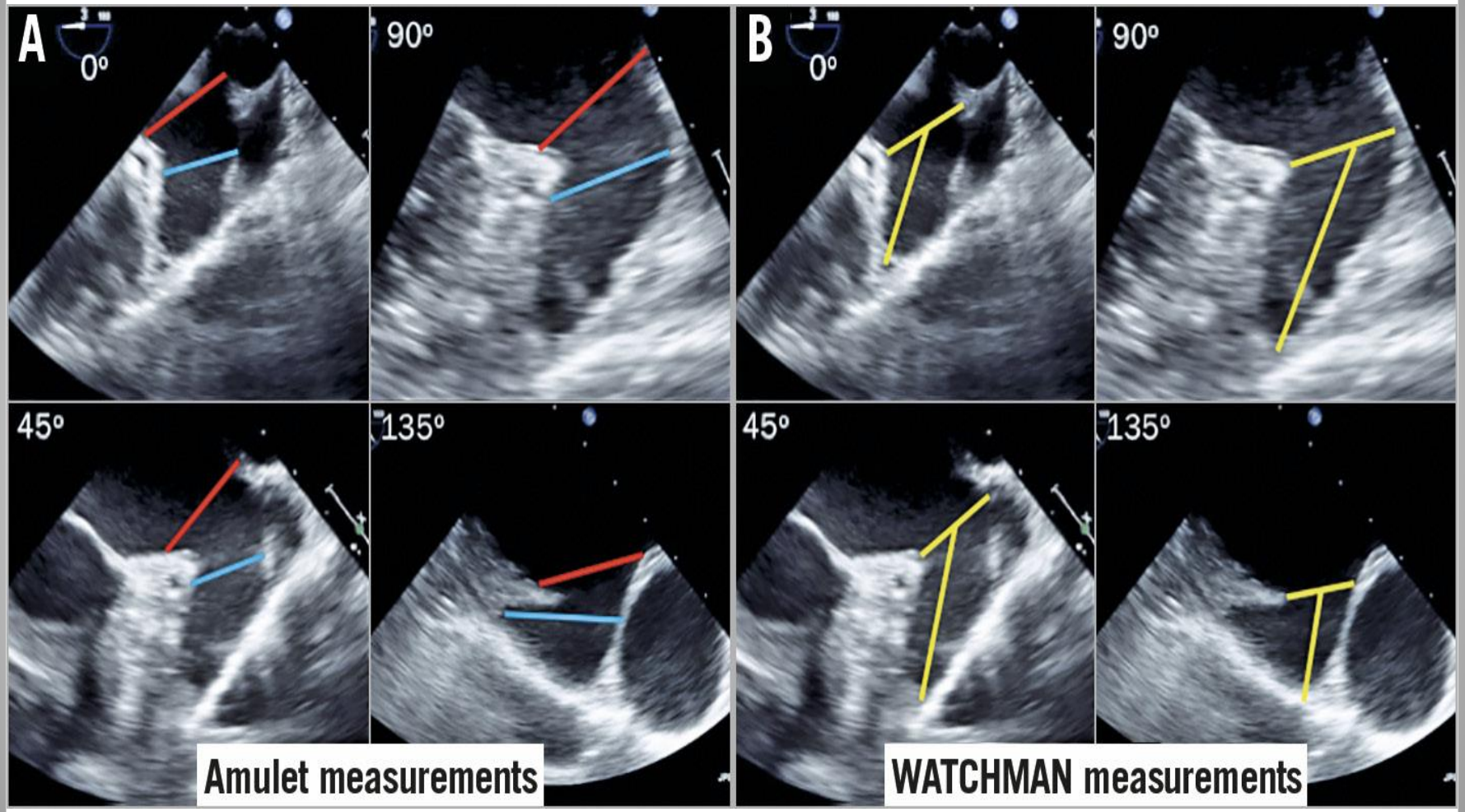
* 48 h dopo, successivo exitus, device in situ
** in H, 4 e 84 g.ta post-intervento

2 casi con successo in seconda procedura

Flow-chart chiusura LAA

Valutazione clinica	**Selezione del paziente** **Valutazione comorbilità**
Valutazione strumentale	**ETE - Eventuale CardioTC** **Programmazione strategia - terapia**
Procedura LAAC	**Esecuzione procedura** **Anestesia + ETE + Fluoroscopia**
Follow-up	**Controllo ETE 45 gg post-procedura** **Eventuali controlli successivi**

Planning: TEE



Planning: CT vs TEE

Preprocedural cardiac computed tomography versus transesophageal echocardiography for planning left atrial appendage occlusion procedures

Bing Wei Thaddeus Soh[1*], Carlos Sebastian Gracias[1], Wee Han Sim[2], Michael Killip[1], Max Waters[1], Kevin P. Millar[1], Julie M. O'Brien[2], Thomas J. Kiernan[1,3] and Samer Arnous[1]

Planning of LAAO procedures with CT is associated with a shorter total procedure time and a lower rate of device size change and is less likely to underestimate the maximum landing zone diameter

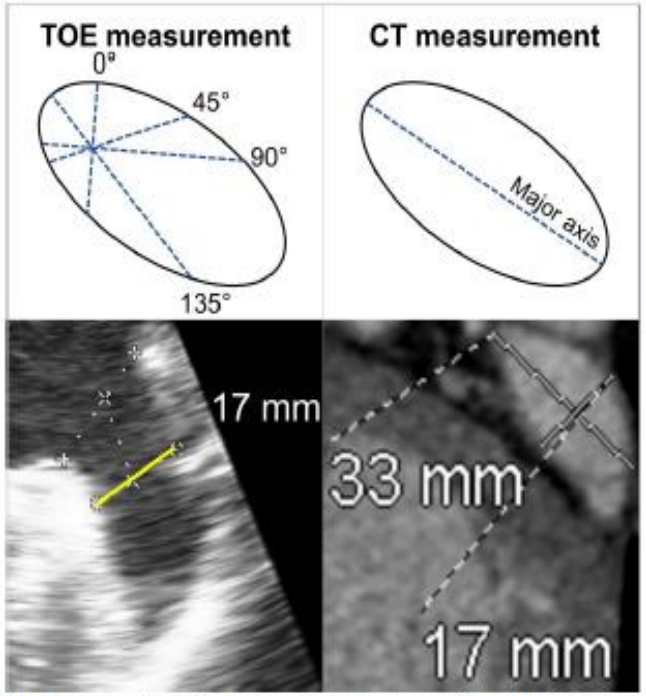


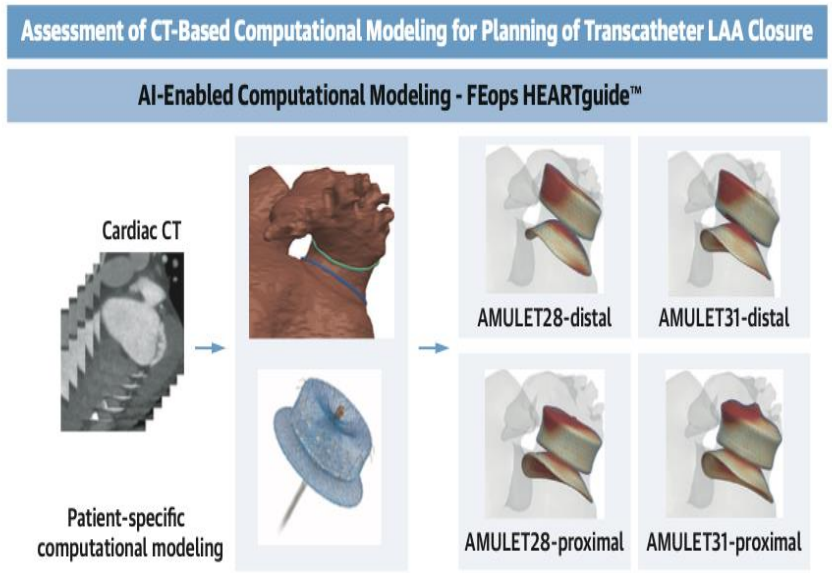
Fig. 5 Comparison of transesophageal echocardiography (TOE) and computed tomography (CT) assessments of maximum landing zone diameter in the same patient. Despite measurements from multiple angles, the two-dimensional assessment by TOE may miss the major axis of an eccentric oval-shaped left atrial appendage, resulting in underestimation of the landing zone

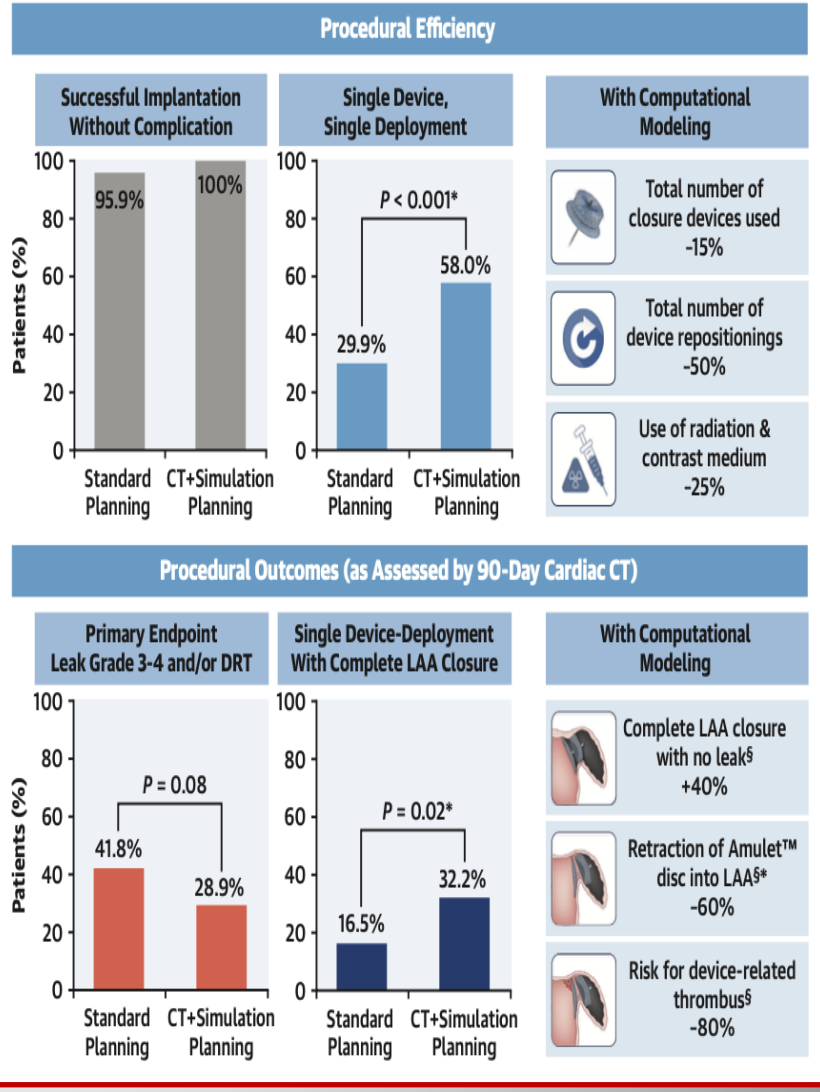
Planning: CT and AI Predict LAA Trial

Impact of Computational Modeling on Transcatheter Left Atrial Appendage Closure Efficiency and Outcomes

Ole De Backer, MD, PhD,[a] Xavier Iriart, MD,[b] Joelle Kefer, MD, PhD,[c] Jens Erik Nielsen-Kudsk, MD, DMSc,[d] Adel Aminian, MD,[e] Liesbeth Rosseel, MD,[f] Klaus Fuglsang Kofoed, MD, PhD,[a] Jacob Odenstedt, MD, PhD,[g] Sergio Berti, MD,[h] Jacqueline Saw, MD,[i] Lars Søndergaard, MD, DMSc,[a] Philippe Garot, MD[j]

CENTRAL ILLUSTRATION Computational Modeling in LAA Closure Planning





Caso clinico - *A.F., ♂ aa 80*

F.d.R.:

- DMNID
- Ipertensione Arteriosa
- Dislipidemia mista
- Aterosclerosi diffusa

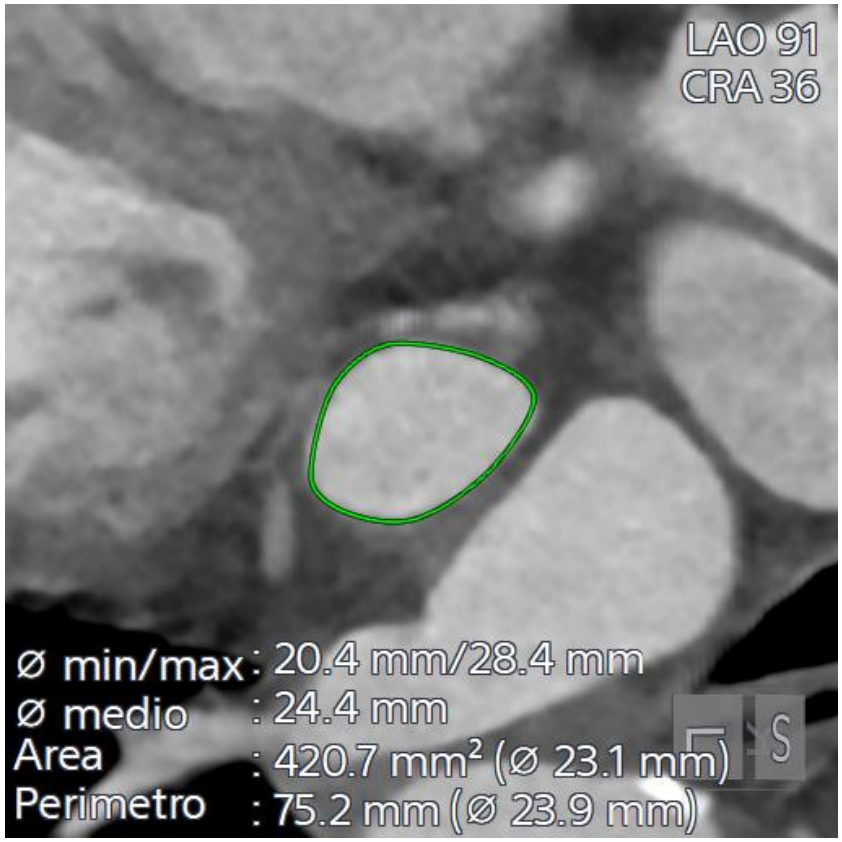
Anamnesi

- 1994 necrosi inferiore (FE residua 50%)
- 1996 BPAC + anello mitralico
- 1999 ACV ischemico
- 1999 TEA carotidea sn
- Negli ultimi mesi diversi episodi di anemizzazione, si ricovera per melena ed anemia, Hb 7
- Stabilizzazione, rilievo di angiodisplasie del tenue
- **FA cronica in NAO**
  - ***N.B. CHADSVasc: 6***
  - ***HASBLED: 4***

Caso clinico - *A.F., ♂ aa 80*

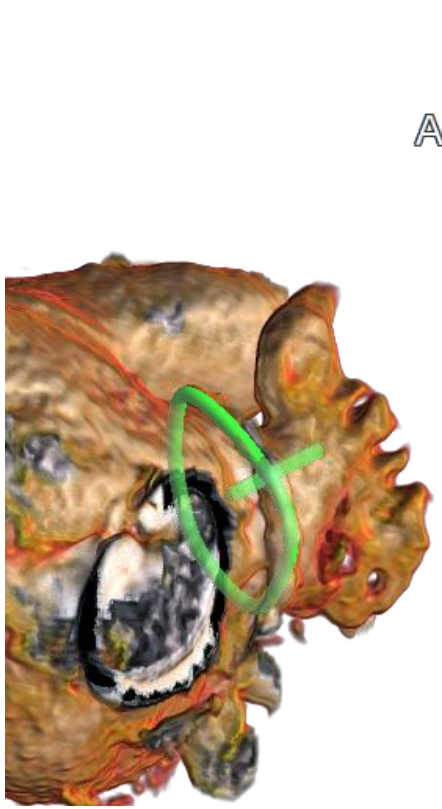
10/2024 tentativo inefficace di LAAC

Programmato nuovo tentativo dopo rivalutazione (CT Scan)

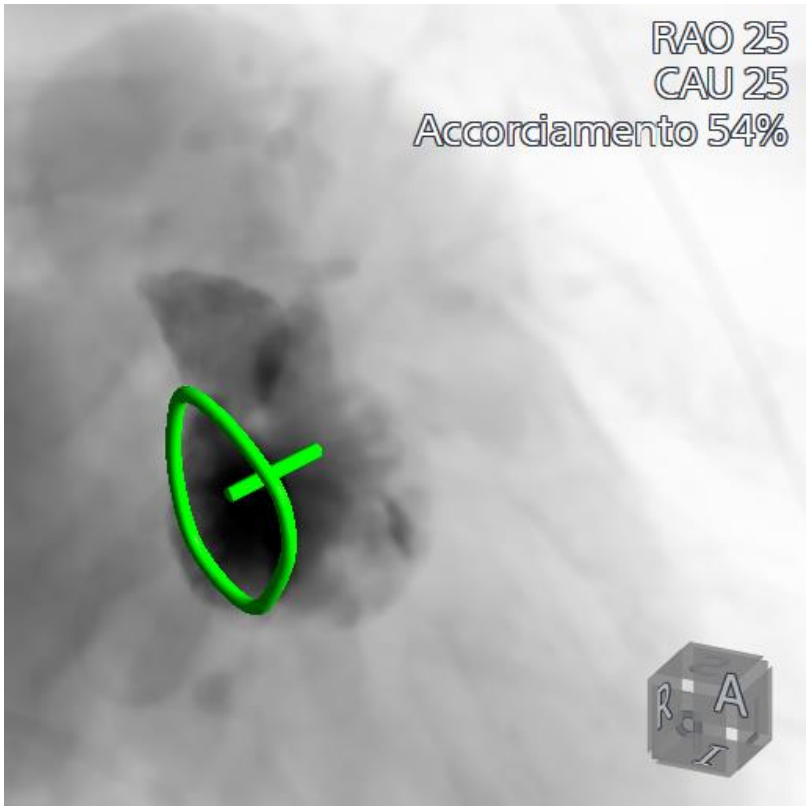


Caso clinico - *A.F., ♂ aa 80*

CT-scan: ricostruzioni 3D - estrapolazione fluoro

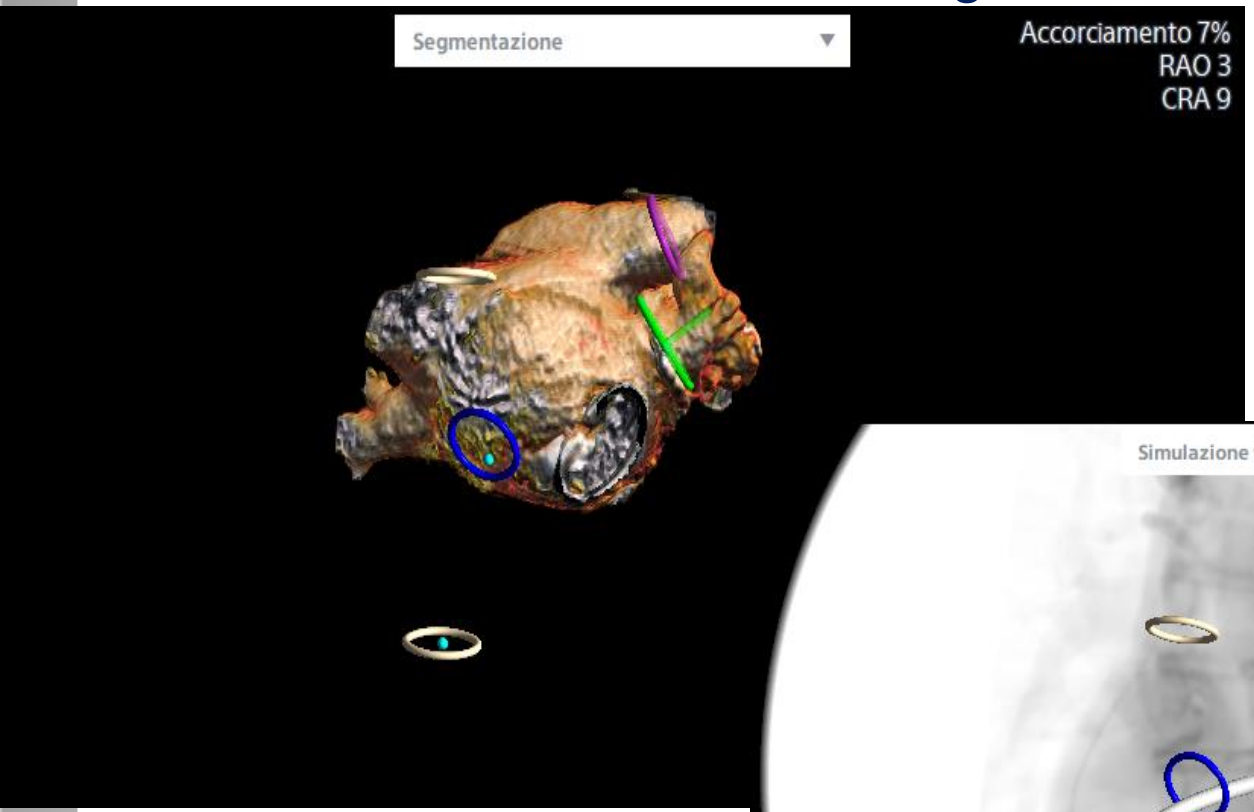


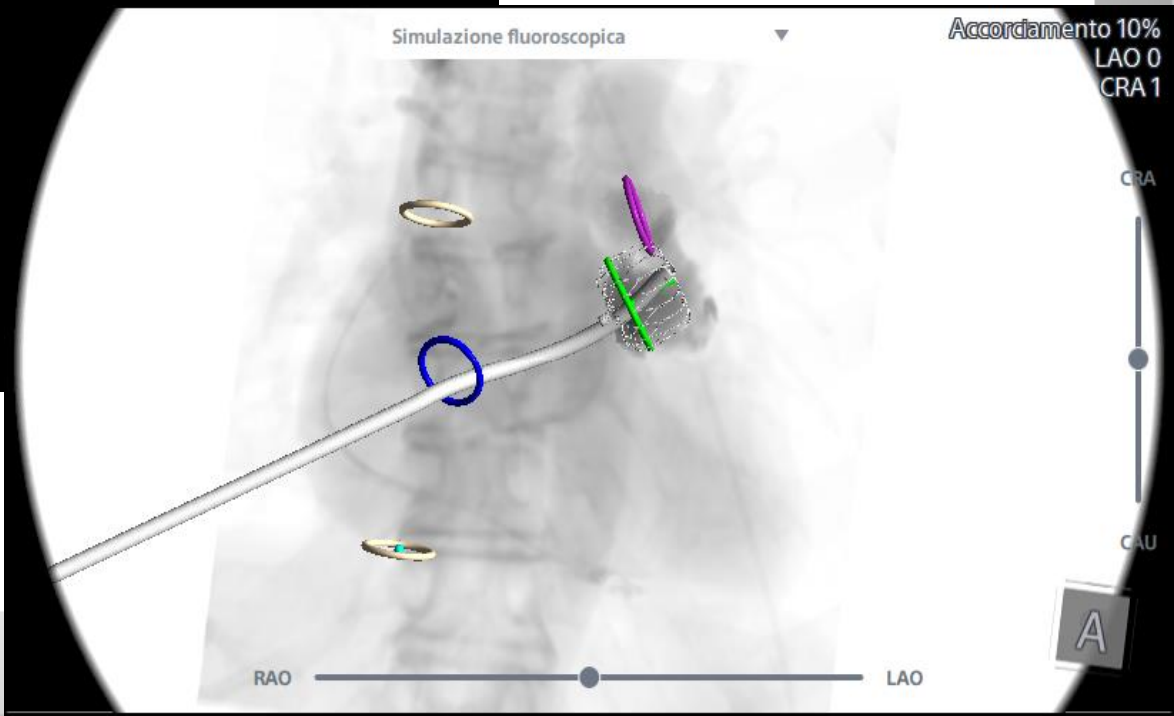
RAO 25
CAU 25
Accorciamento 54%



Caso clinico - *A.F., ♂ aa 80*

CT-scan: ricostruzioni 3D – angolo fluoro ottimale



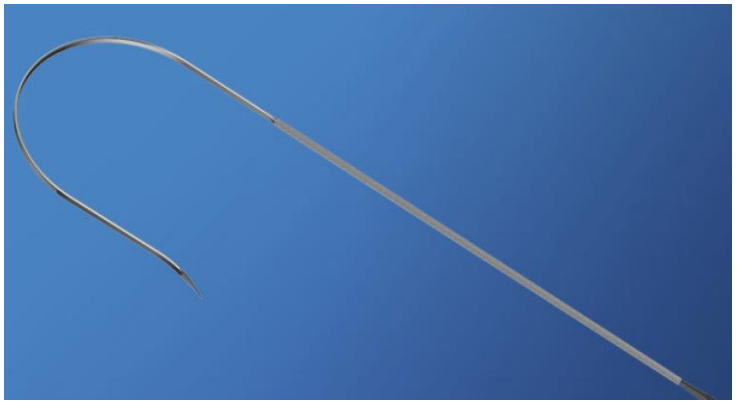


Caso clinico - *A.F., ♂ aa 80*

Puntura SIA:

- **guida SAFESEPT (precisione puntura)**

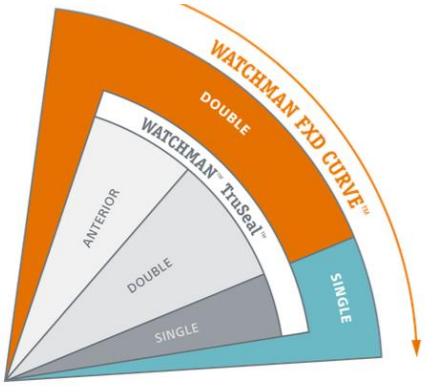
(Efficacia nell'ottenere una puntura più bassa in una porzione fibrosa del SIA)



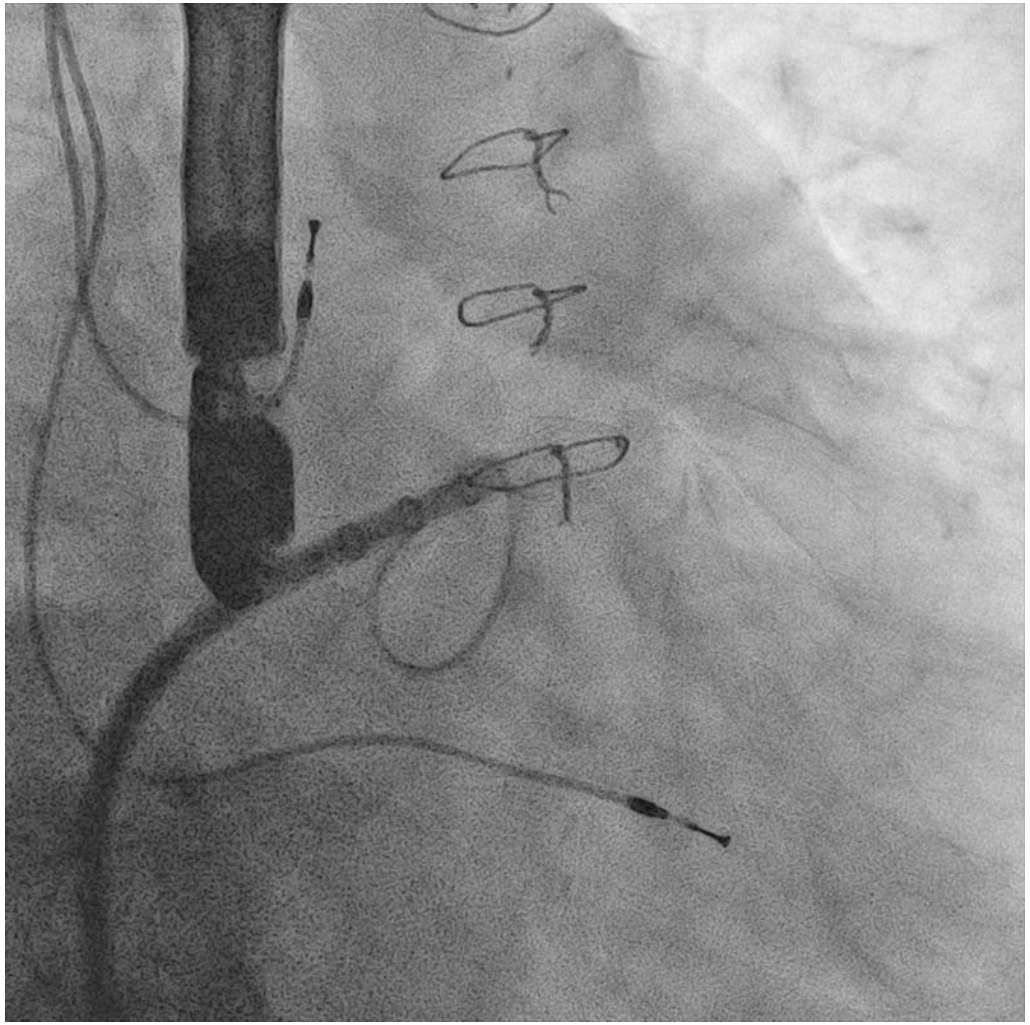
Delivery:

- **FXD curve 15 F**

+ torquability vs Truseal



Caso clinico - *A.F., ♂ aa 80*



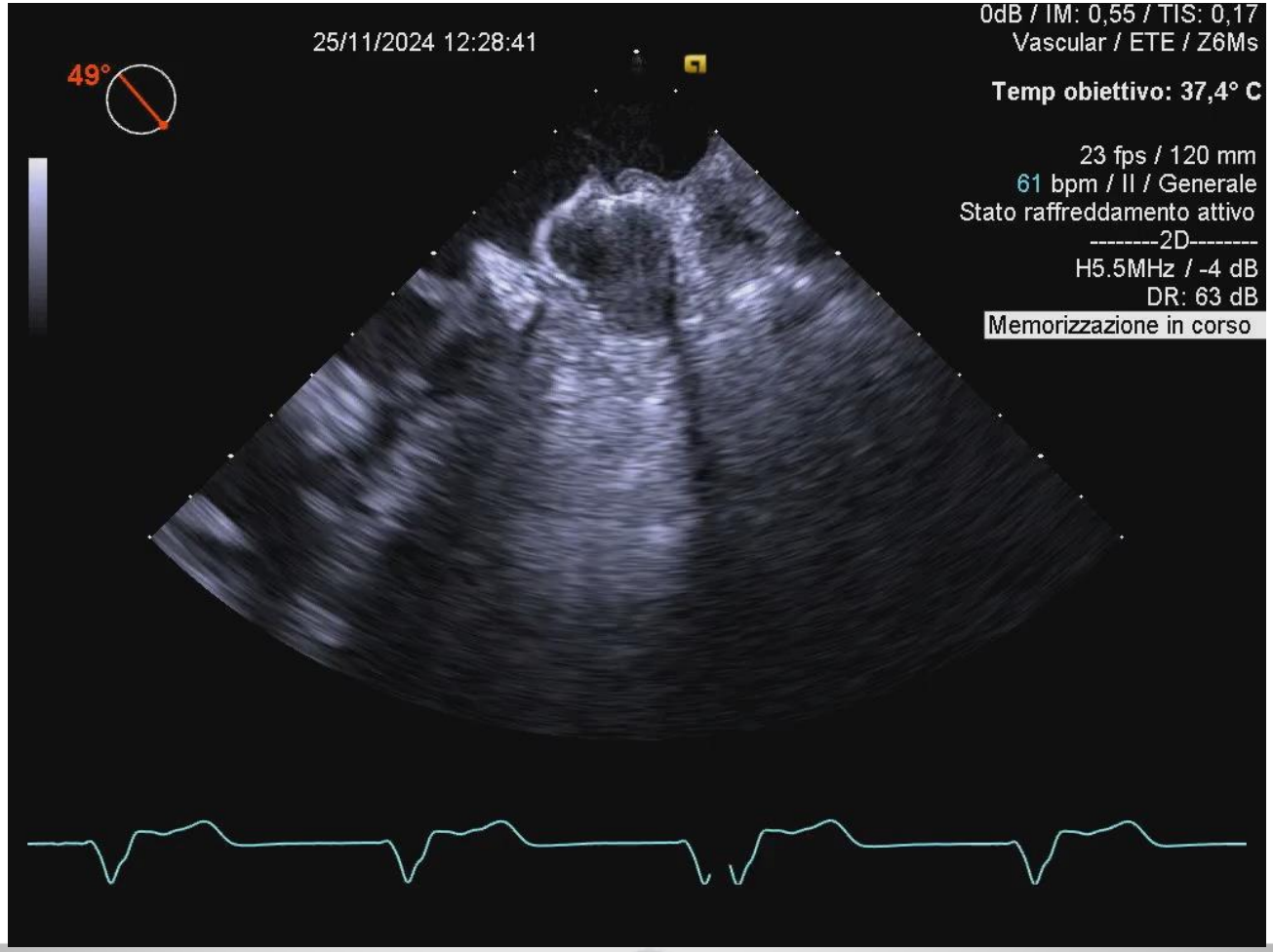
Delivery:

- **FXD curve 15 F**

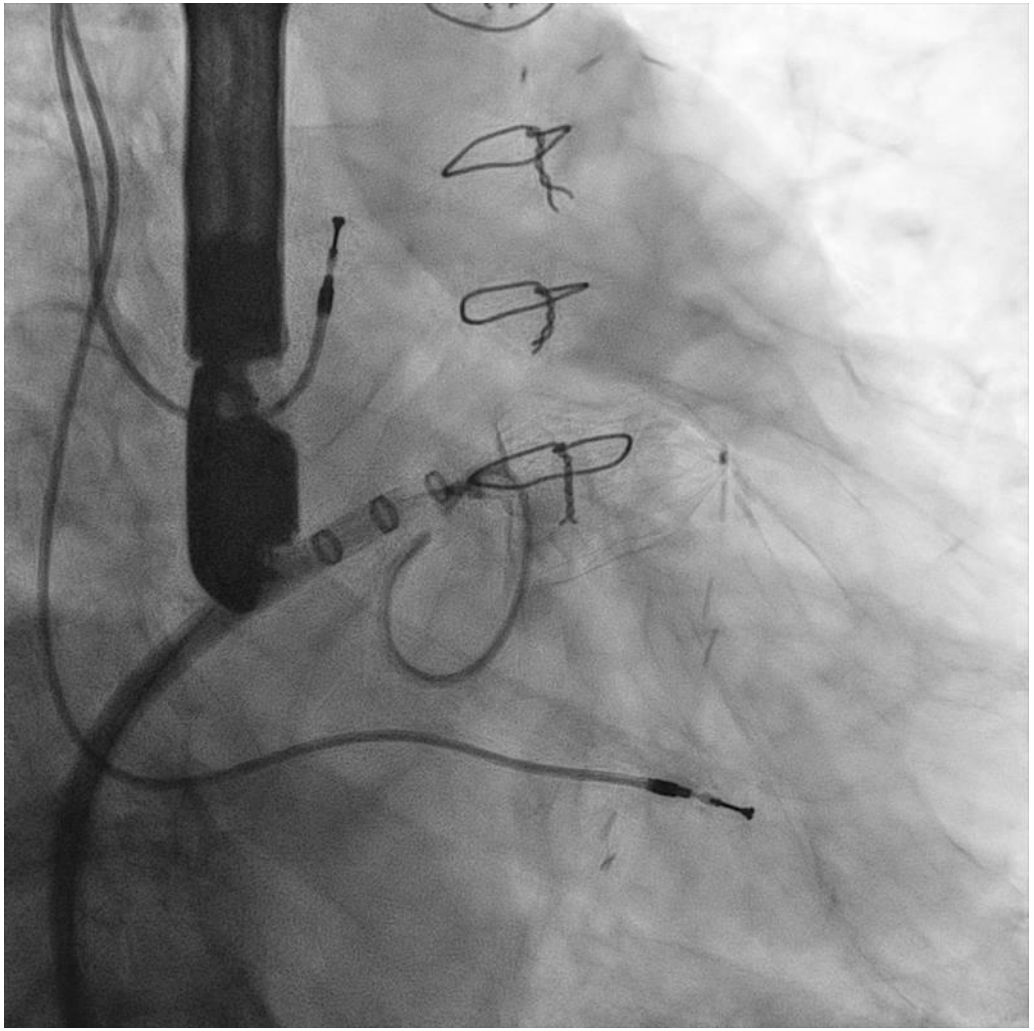
WM FLX 31

Caso clinico - *A.F., ♂ aa 80*

Controllo TEE: Watchman FLX 31

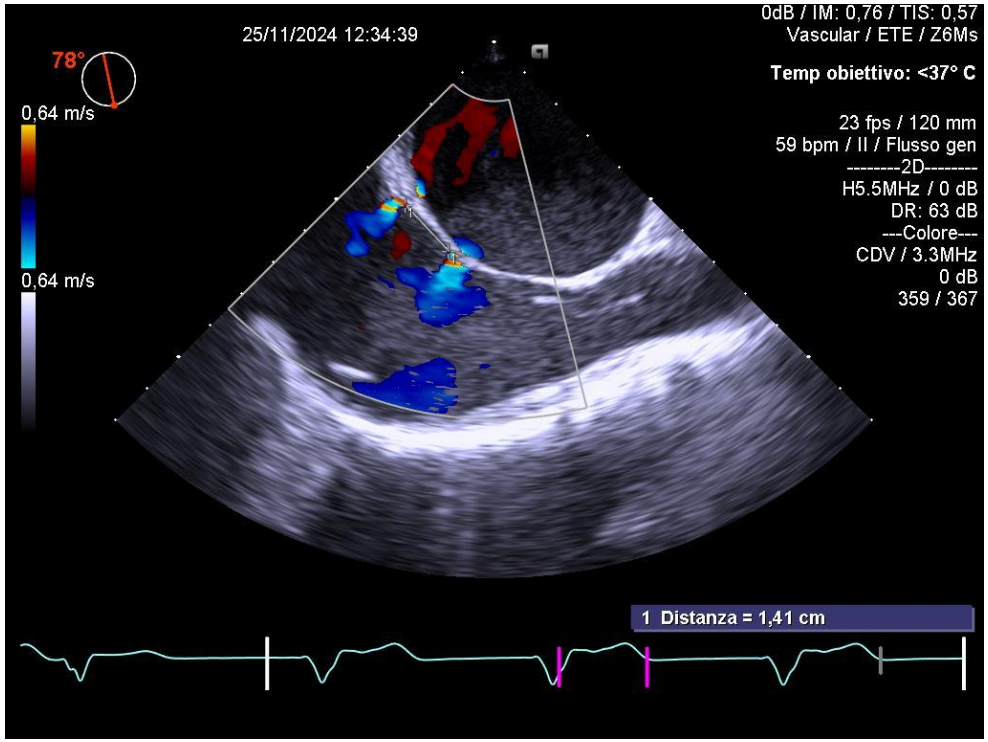


Caso clinico - *A.F., ♂ aa 80*



Angiografia
Controllo

Caso clinico - *A.F., ♂ aa 80*



Puntura SIA:

- **guida SAFESEPT (precisione puntura)**

(Efficacia nell'ottenere una puntura più bassa in una porzione fibrosa del SIA)

Delivery:

- **FXD curve 15 F**

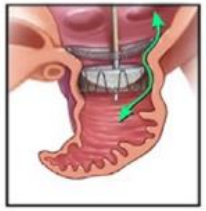
+ torquability vs Truseal

Remaining challenges LAAO

Efficacy Data

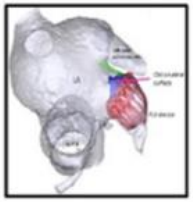
Current Status
Limited clinical trial data
Future Directions
More RCTs ongoing
↑ Large registry analyses

Device Leak



Current Status
Leaks → more events
Future Directions
Newer devices &
improved techniques

Device-Related Thrombus



Current Status
2%-4% DRT rate
Future Directions
Prediction tools
Mitigation strategies

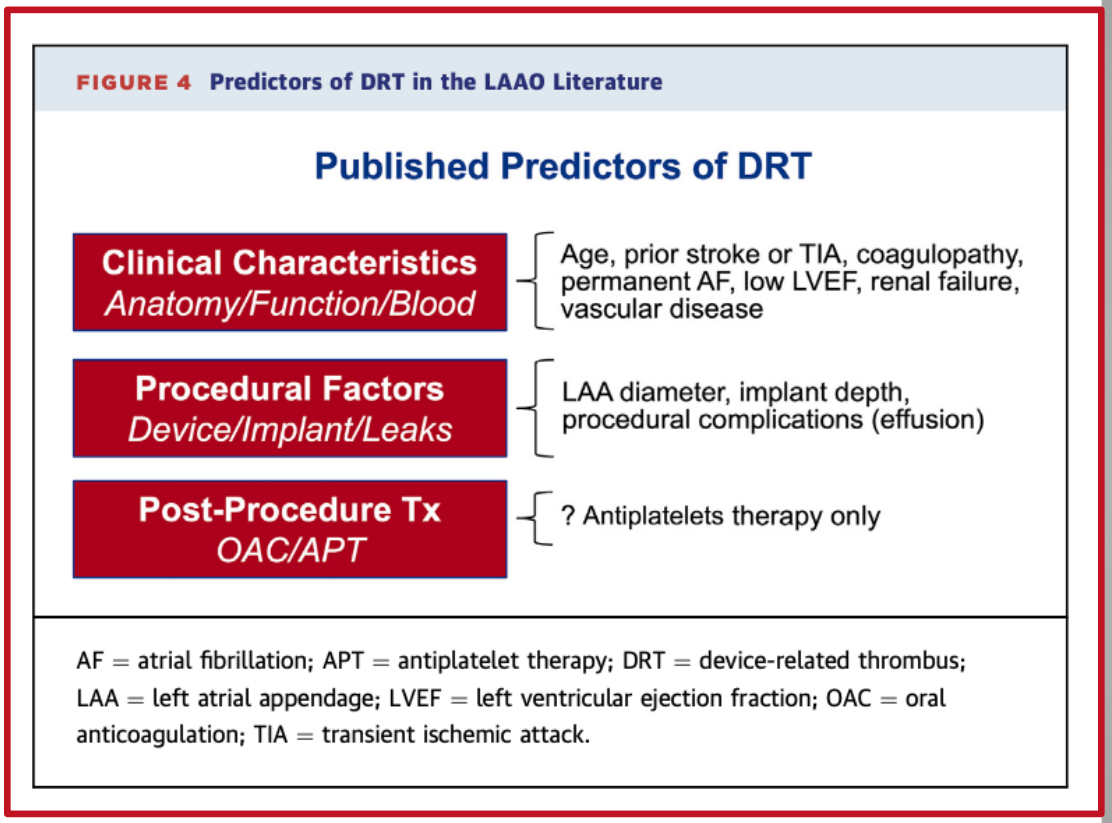
Procedural Optimization

Current Status
TEE, GA, ↑ SDD
Future Directions
CTA, ICE
Performance metrics

Alkhouli M, et al. JACC Adv. 2022;1(5):100136.

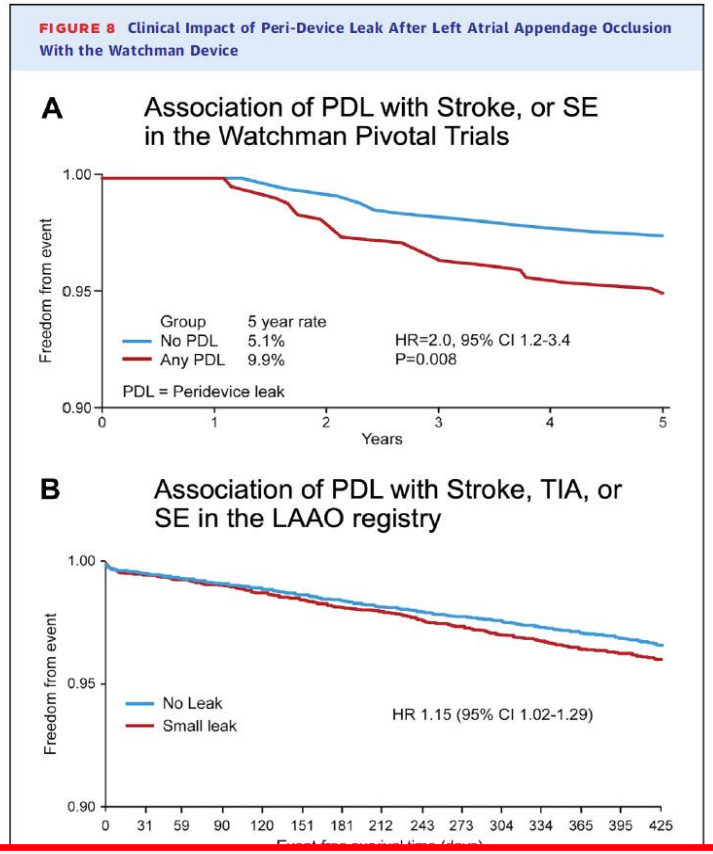
Device Related Thrombus

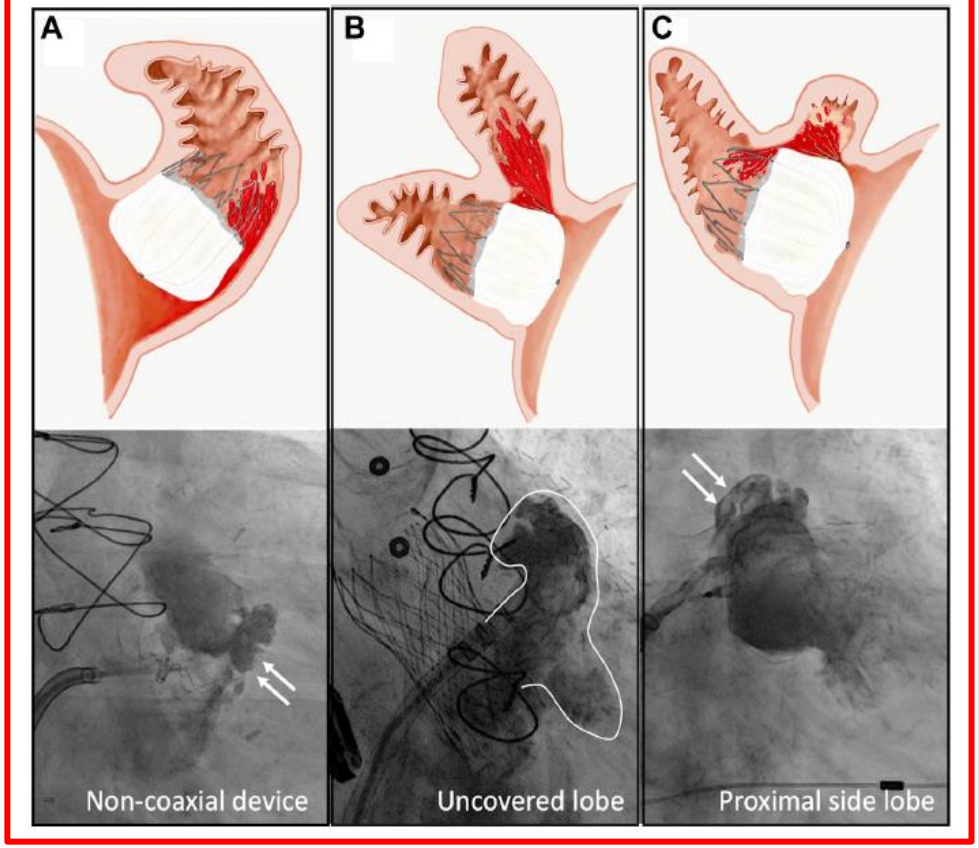
- The incidence of DRT is 1,7-3,8% in literature
- The incidence of ischemic stroke was 13.2% in patient with DRT vs 3.8% in patients without DRT (OR:5.27)



Alkhouli M, et al. JACC Adv. 2022;1(5):100136.

Peri Device Leak

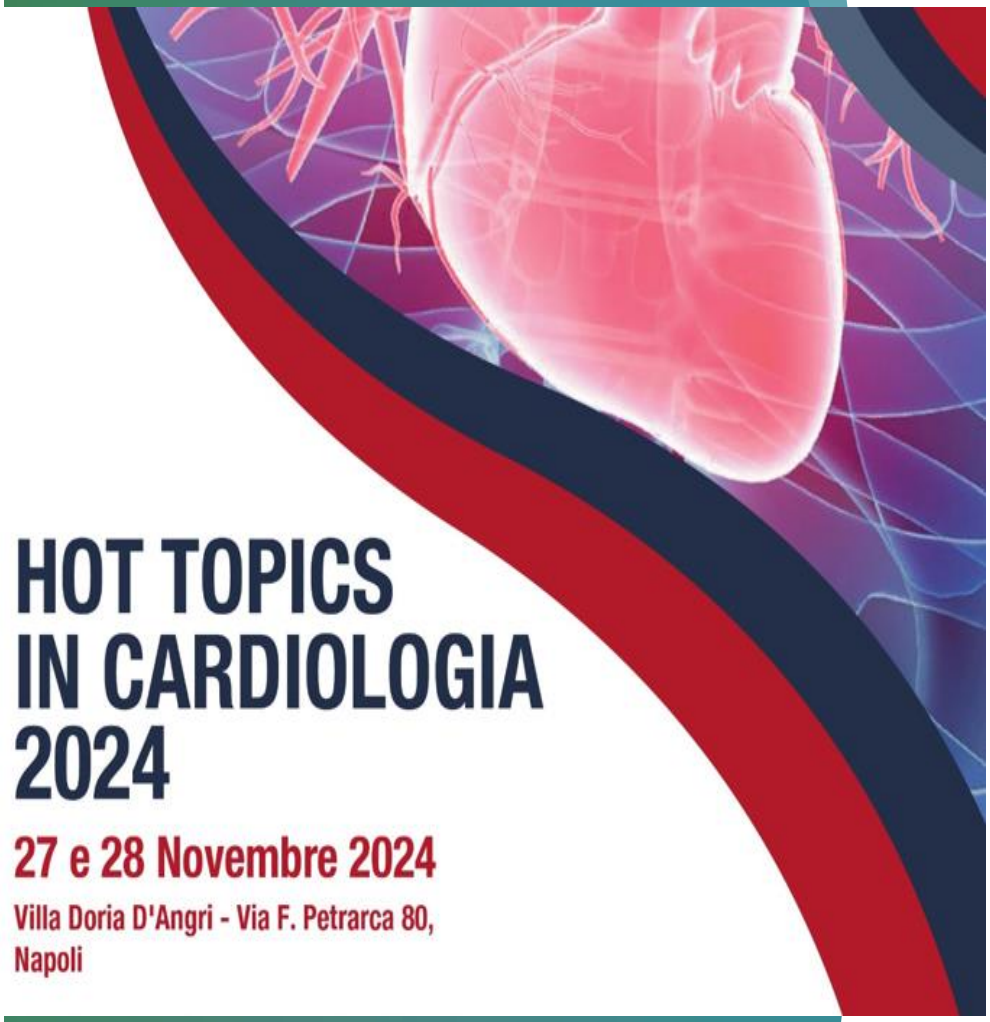




Alkhouli M, et al. JACC Adv. 2022;1(5):100136.

LAAC…take home message

- Procedura “preventiva” idealmente priva di complicanze e da eseguire con massima efficacia
- Eseguita con sicurezza in centri senza cardiochirurgia.
- Counselling accurato
  - ✓ (verificare il “rifiuto del paziente alla TAO”)
- Programmazione (TEE…CT…AI?) per ottimizzazione procedurale
- Esecuzione (imaging “guida” - scelta device)
- Rivalutazione terapia post-procedurale…tailored (?!)



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Flow-chart chiusura FOP

Valutazione clinica	**Selezione del paziente** **Valutazione comorbilità**
Valutazione strumentale	**ETc** **ETE**
Procedura LAAC	**Esecuzione procedura** **Anestesia + ETE + Fluoroscopia**
Follow-up	**Controllo ETc 3 mesi post-procedura** **Eventuali controlli successivi**

Procedure chiusura FOP-DIA

Pazienti	73	
Successo impianto	73	100%
Embolizzazione	0	
Versamento pericardico	0	
Arresto Cardiaco	0	
Ictus Cerebri	0	
Morte	0	
Ematoma sito di accesso	0	
Sanguinamenti maggiori	0	
TOT complicanze periprocedurali	0	0%