

PALAIS
8 CONGRES
BIARRITZ
4 / 5 / 6
JUN 2014



Le Future de la Mitrale ... est déjà là Nouveautés dans l'Insuffisance mitrale

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“L’avenir est un présent que nous fait le passé”



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CARDIOVASCULAR SURGERY**

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Honored Guest's Address

Cardiac valve surgery—the “French correction”

Alain Carpentier, M.D., Paris, France

Mr. President, I would like to begin by expressing my gratitude to the Association for the privilege of presenting the Honored Guest Lecture at the Sixty-third Annual Meeting of The American Association for Thoracic Surgery. What surprises me the most in this meeting is my presence on this podium, since this honor is usually reserved for more senior and preeminent figures in thoracic surgery. I suppose that you wanted to distinguish a team rather than a man, so that I would like to share this honor with my co-workers who are present in this room: Drs. Deloche, Fabiani, Chauvaud, Relland, Lessana, Lapeyre, Mrs. Chauveau, Mrs. Menissier, Mrs. Veneziani, and with my wife, Sophie, who has participated in my laboratory work throughout the years. I also would like to pay special tribute to my respected teacher, Professor Charles Dubost, and to mention my two colleagues, Professors Blondeau and Claude d'Allaines, who are unfortunately not with us today.

Members of the Association, in the past 14 years, I have attended the annual meeting of your Association 14 times with the privilege of having presented a paper 10 times. All through these years, wearing a pink identification badge, I observed with great admiration and respect the famous people wearing a white printed badge and seated in a carefully delineated area of reserved seats! Permit me to tell you how proud I am to enter your prestigious circle.

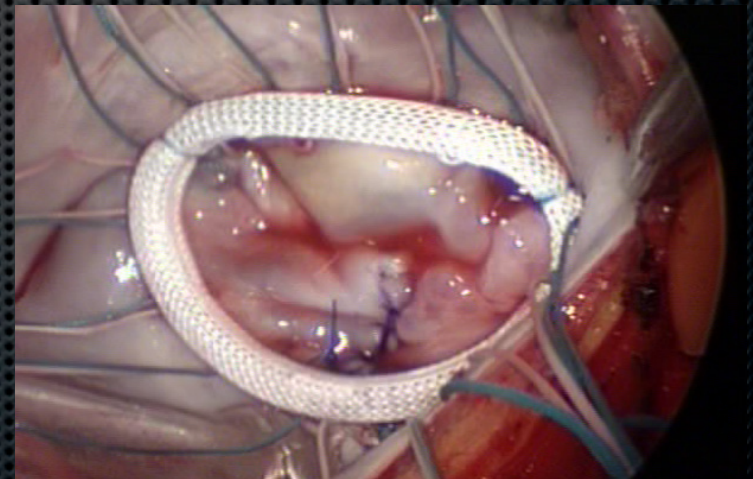
Guests, you are seated outside this circle, but only temporarily! I address you specifically, since you represent the future of thoracic surgery and the future of this august Association.

Members and guests, cardiac surgery has achieved remarkable progress in the past 10 years. Safer techniques of anesthesia and postoperative care, improved extracorporeal circulation and myocardial protection, and sophisticated surgical techniques are new tools which have been instrumental in reducing hospital mortality and increasing the efficiency of our operations. New surgical tools impose new surgical goals. Its not enough to save patients' lives, we must also take into consideration the quality of life given to the patient and the socioeconomic impact of our surgical actions. There already have been some trends in this direction, such as operating for congenital malformations at an earlier stage and the development of reconstructive operations to replace palliative techniques. Reconstructive valve surgery can very well be considered another example of this *nouvelle chirurgie* which justifies making it the subject of today's lecture.

Since everything we do in life has some visible or obscure relationship to the environment in which it

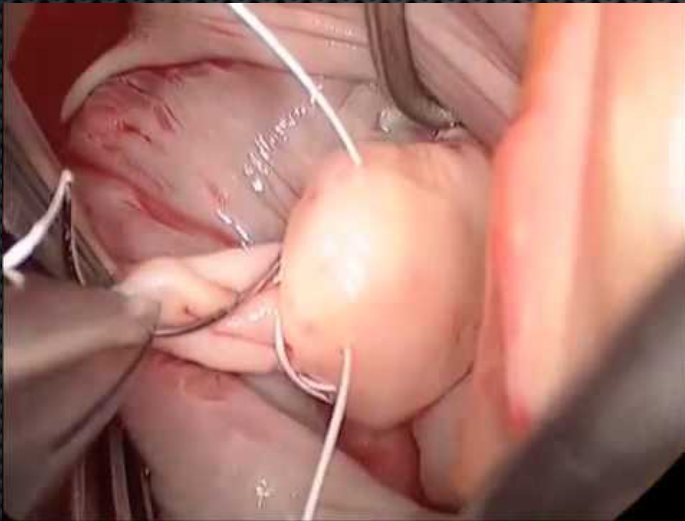
From Hôpital Broussais, Paris, France.
Read at the Sixty-third Annual Meeting of The American Association for Thoracic Surgery, Atlanta, Ga., April 25-27, 1983.
Address for reprints: Department of Cardiovascular Surgery, Hôpital Broussais, 96 Rue Diderot, 75674, Paris Cedex 14, France.

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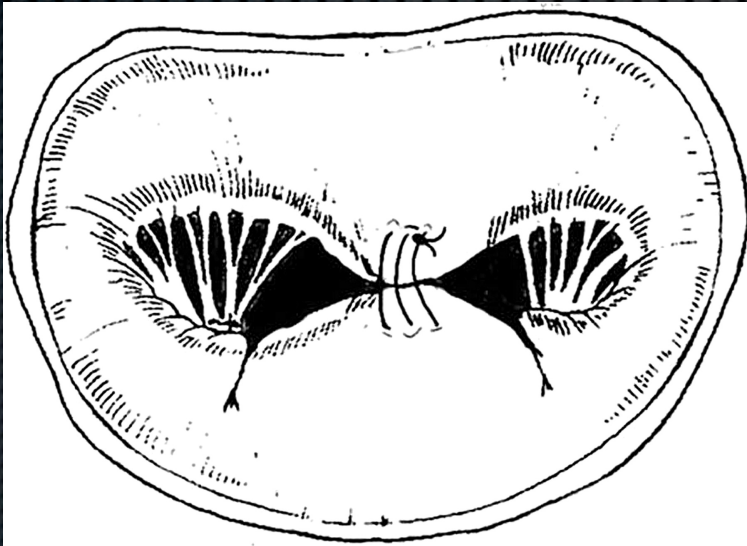
L'annuloplastie mitrale

“L’avenir est un présent que nous fait le passé”



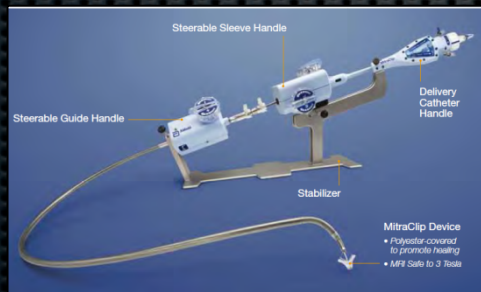
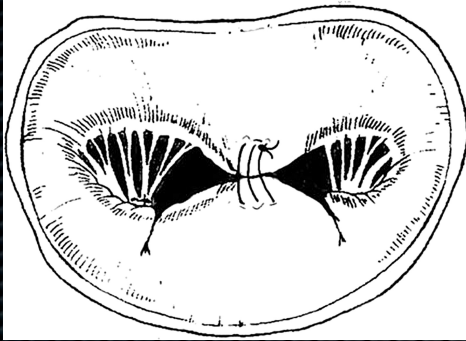
Les néochordages de PTFE

“L’avenir est un présent que nous fait le passé”

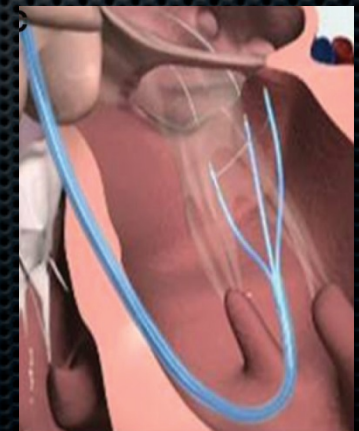
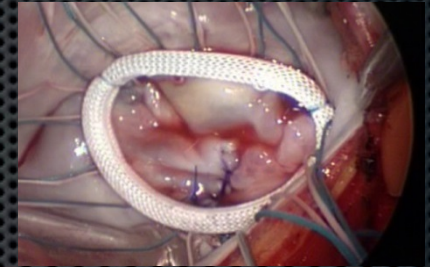


Le “Edge to Edge”

L'Avenir de la Mitrale



Neochord™



Mitraline™

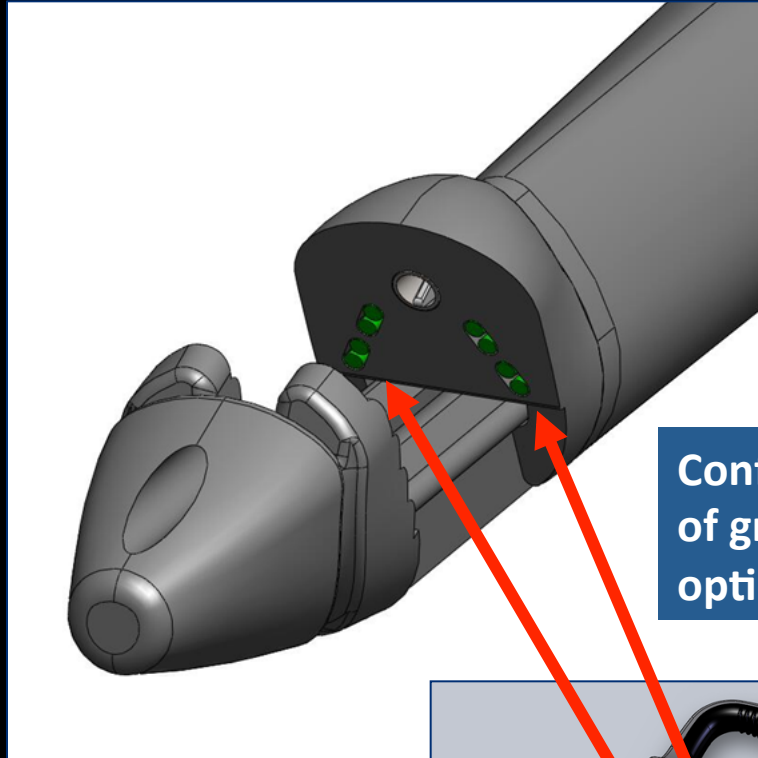
NeoChord : Principe

NeoChord :Matériel



*Investigational Device
Not available for sale in the USA*

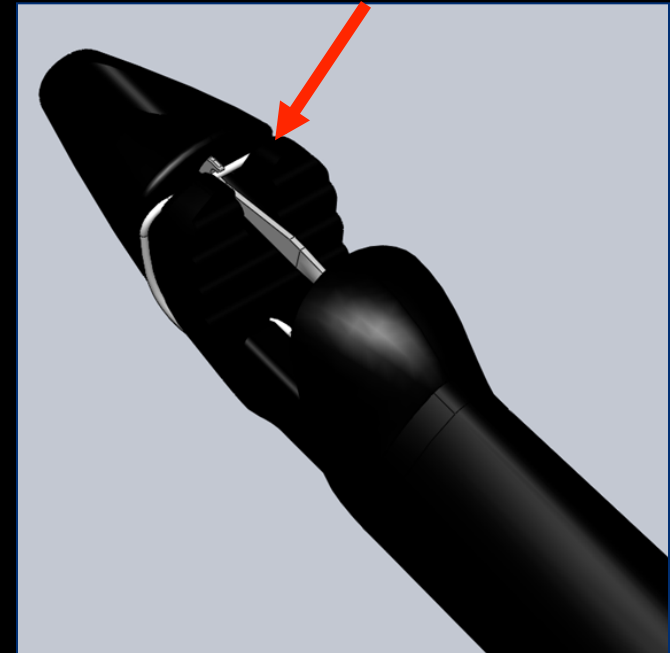
NeoChord :Matériel



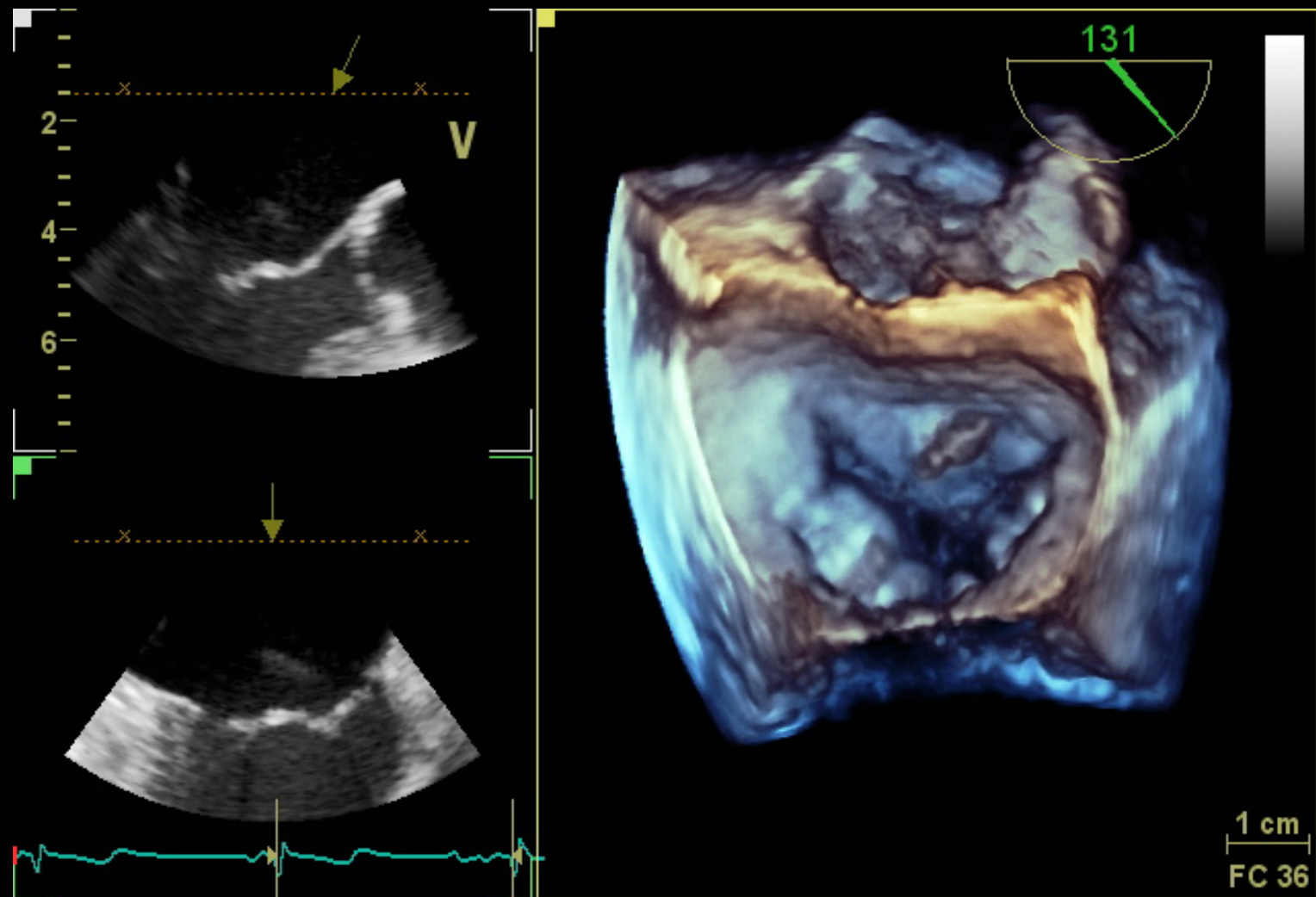
Confirmation
of grasp (Fiber
optics)



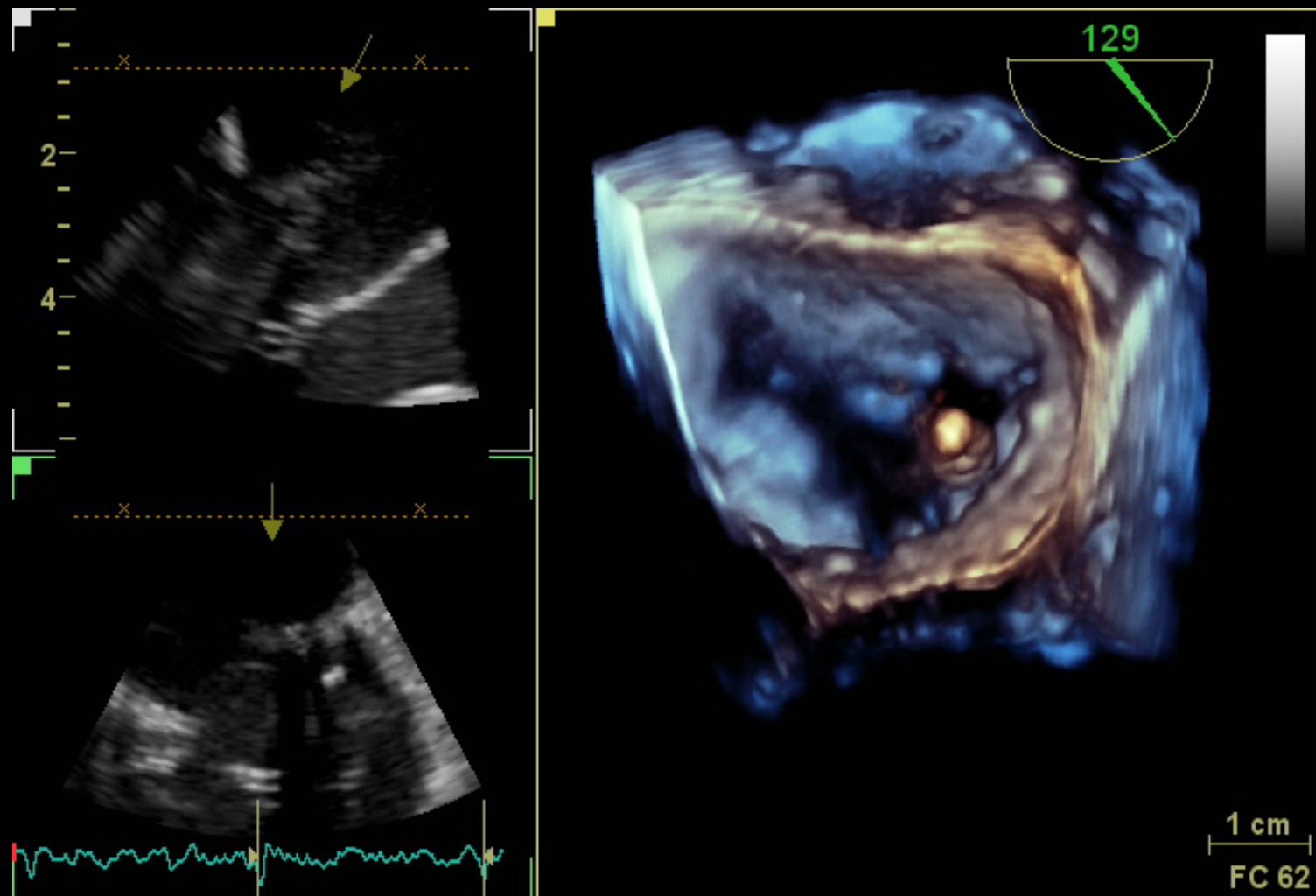
Needle with suture &
Exchangeable cartridge
8 mm diameter



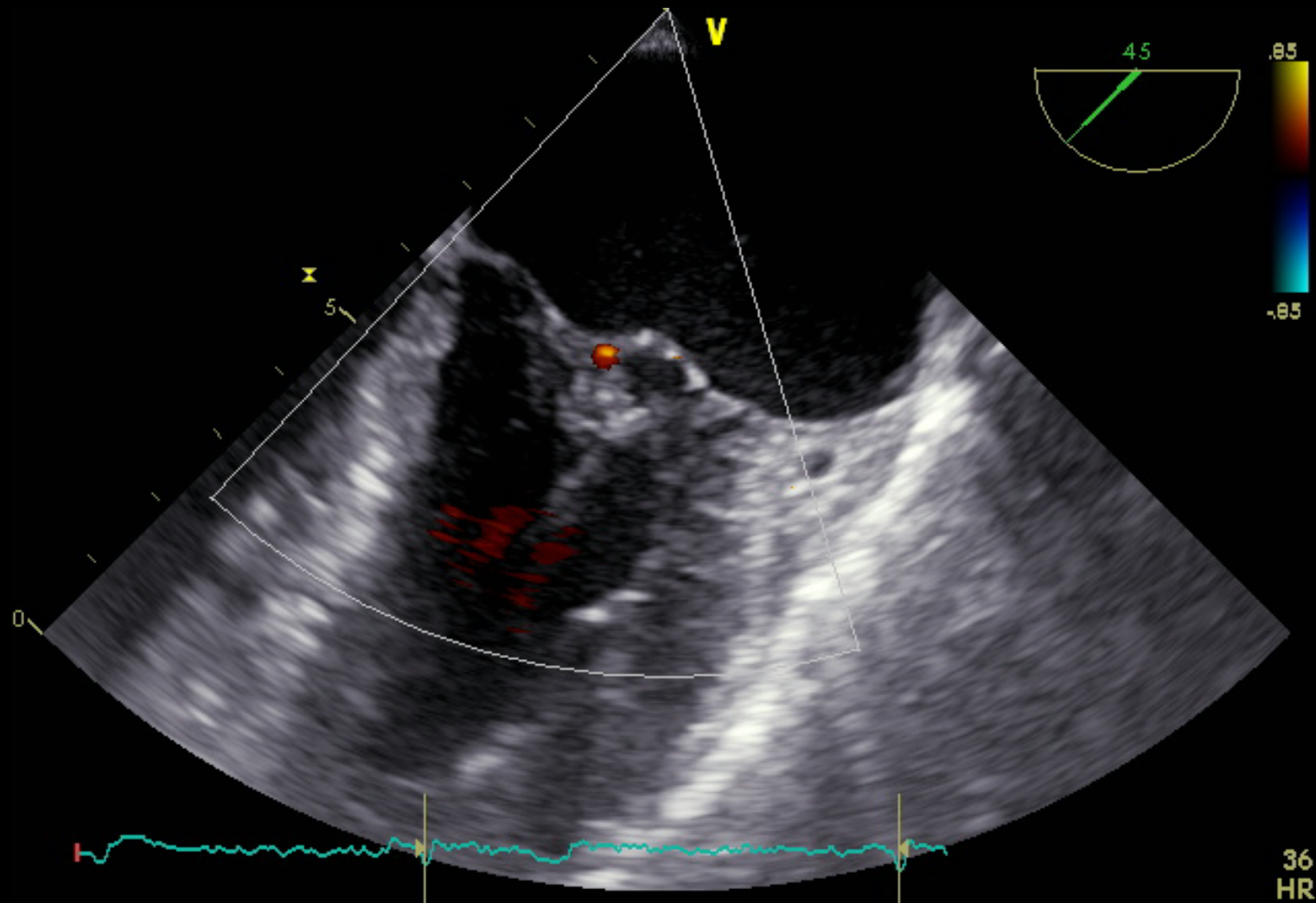
Exemple : M. D...



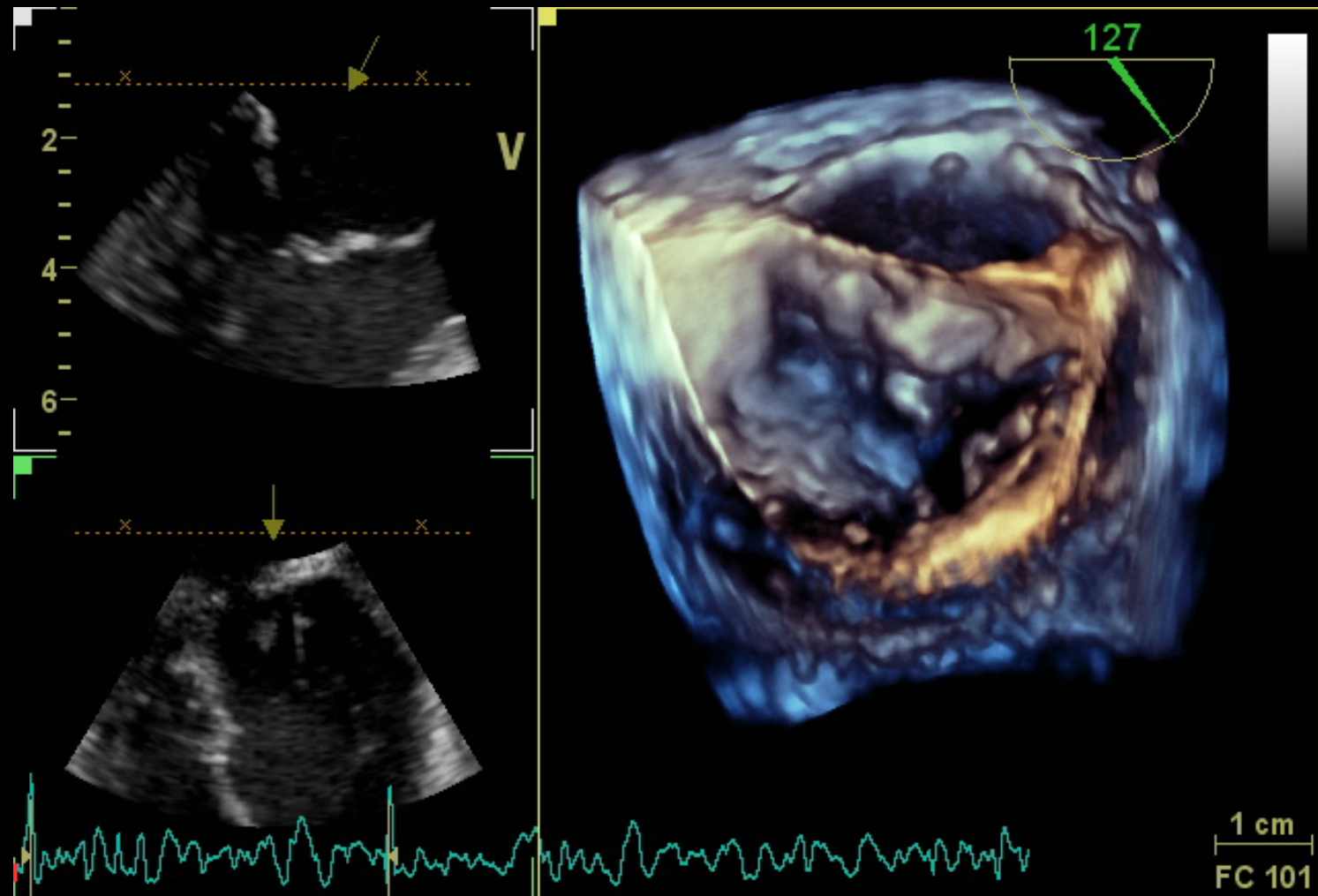
Exemple : M. D...



Exemple : M. D...



Exemple : M. D...



TACT Trial Results

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Off-Pump Transapical Implantation of Artificial Neo-Chordae to Correct Mitral Regurgitation



The TACT Trial (Transapical Artificial Chordae Tendinae)
Proof of Concept

Joerg Seeburger, MD, PhD,* Mauro Rinaldi, MD, PhD,† Sten Lyager Nielsen, MD,‡
Stefano Salizzoni, MD,† Ruediger Lange, MD, PhD,§ Markus Schoenburg, MD,||
Ottavio Alfieri, MD, PhD,¶ Michael Andrew Borger, MD, PhD,*
Friedrich Wilhelm Mohr, MD, PhD,* Audrius Aidietis, MD, PhD#

*Leipzig, Munich, and Bad Nauheim, Germany; Turin and Milan, Italy; Aarhus, Denmark;
and Vilnius, Lithuania*

Critères de sélection

Critères d'inclusion

- IM $\geq$ Grade 3+
 - Prolapsus isolé de la PVM
- Indication de chirurgie mitrale

Critères d'exclusion

IM Fonctionnelle ou ischémique
EF < 30% ou LVEDD > 6,5 cm
Prolapsus bi-valvulaire
FA permanente

Implantation TACT trial et post-TACT

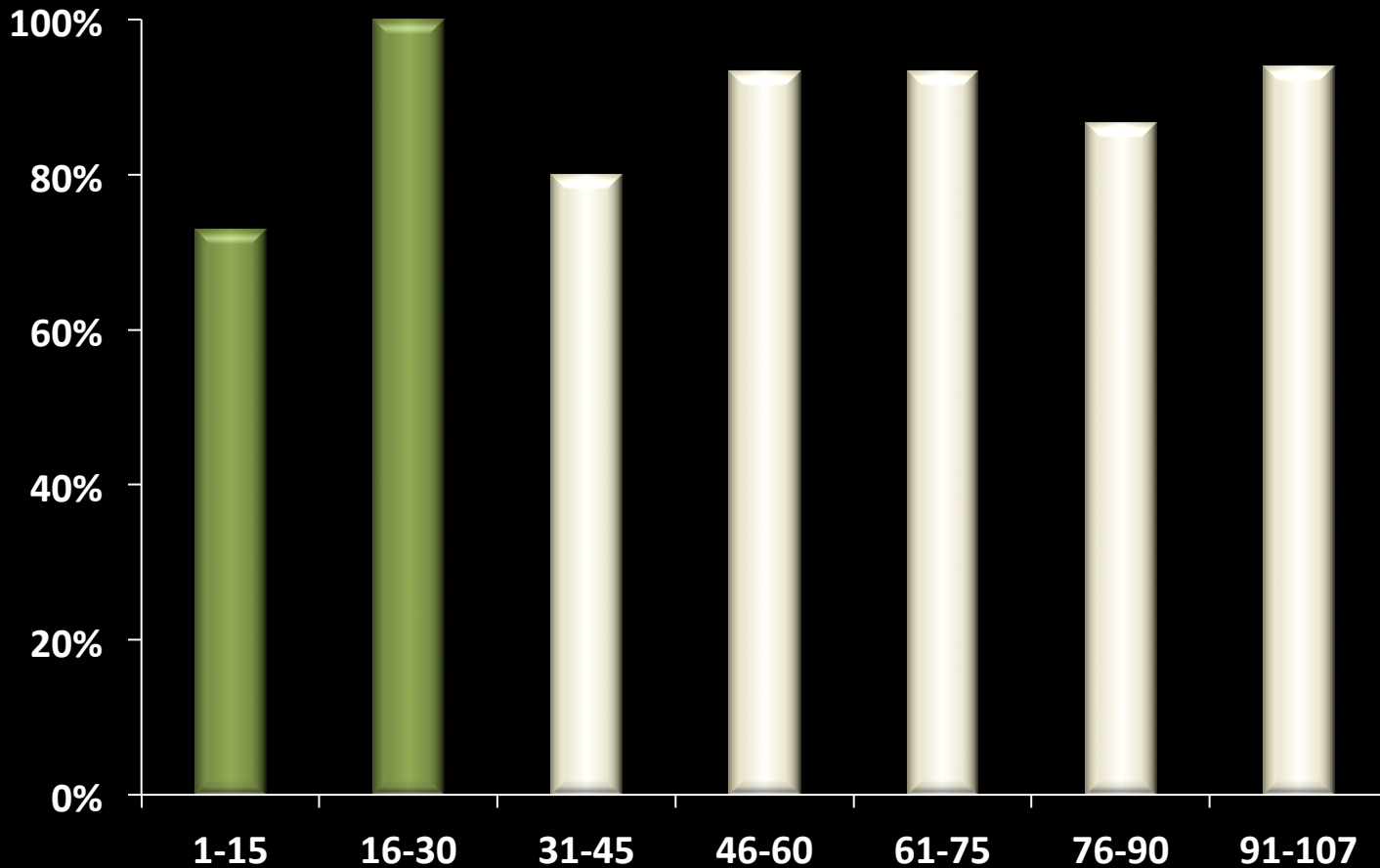
TACT Trial	30
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Post TACT Trial Registry & Non-Registry	79
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Total	109 pts.
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Acute Procedure Success (All Patients)

91% Acute Procedure Success in the Post-Market Setting*



TACT Trial

Post-Market

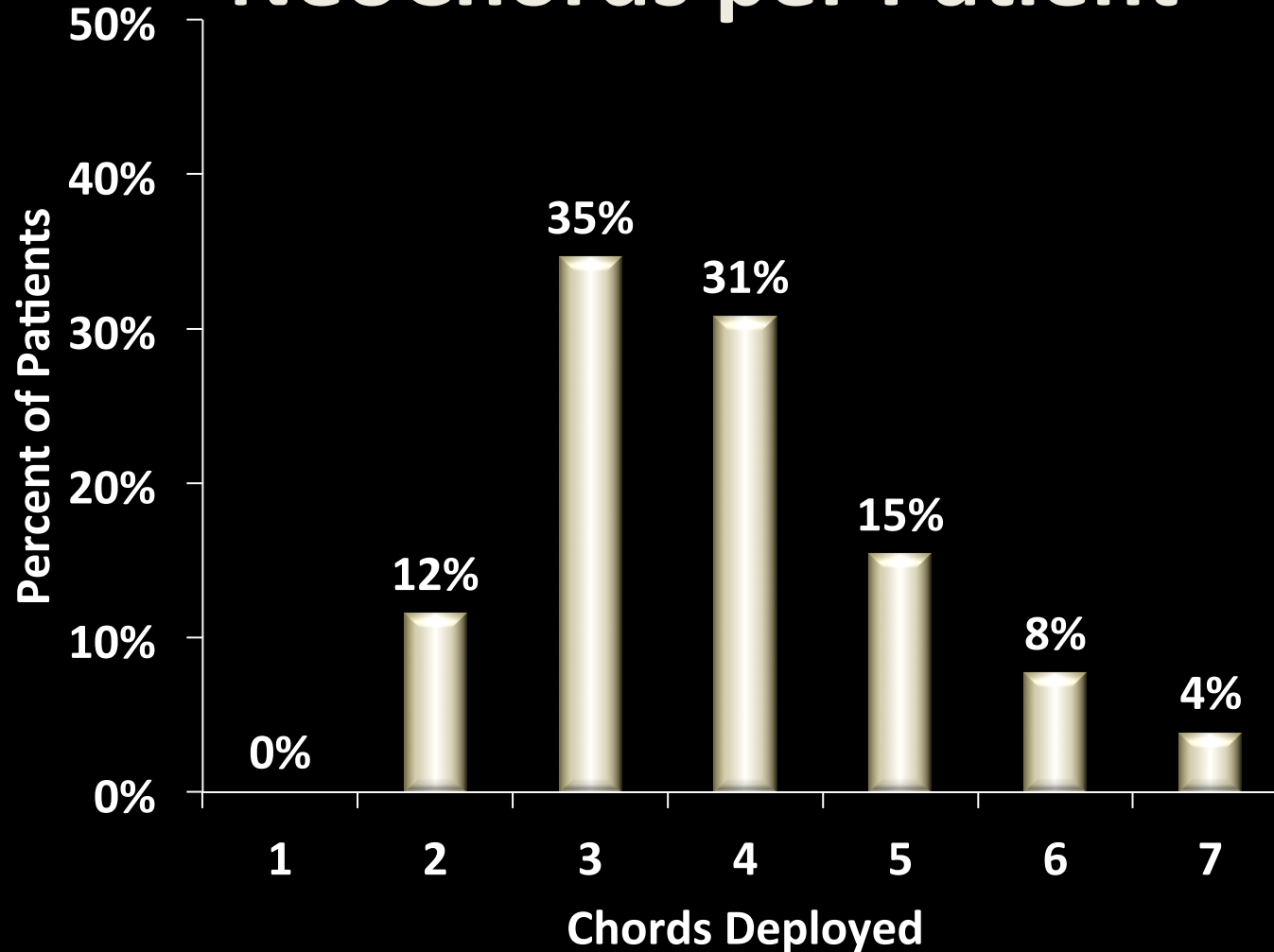
Procedure Number

* MR $\leq$ 2+ at pre-discharge

Contre-indications

- Calcifications valvulaires
- Restriction des feuillets valvulaires
- Endocardite valvulaire active
- Mécanisme de l'IM complexe (leaflet perforation, etc.)
- Tenting important
- Maladie valvulaire inflammatoire chronique (RAA...)

NeoChords per Patient



- Average skin-skin time: 132 ± 32 minutes (min 75, max 220)
- Average time to place chords: 38 ± 23 minutes (min 13, max 121)

Stratification anatomique des patients

“Type1” Ideal Patient:

- Prolapsus central de P2
- Hauteur de coaptation post réparation évaluée >8mm

“Type 2” Acceptable patient:

- Hauteur de coaptation < 8mm
- Prolapsus étendu à P1 ou P3

“Type 3” Challenging Patient:

- Prolapsus commissuraux
- Dilatation VG avec tentig des feuillets
- Jet régurgitant central
- Calcifications des feuillets valvulaires

Patient idéal

PHILIPS

TIS0.2 MI 0.5

X7-2t/3D

FR 8Hz
7.8cm

3D Beats 1

M4

3D
3D 34%
3D 40dB

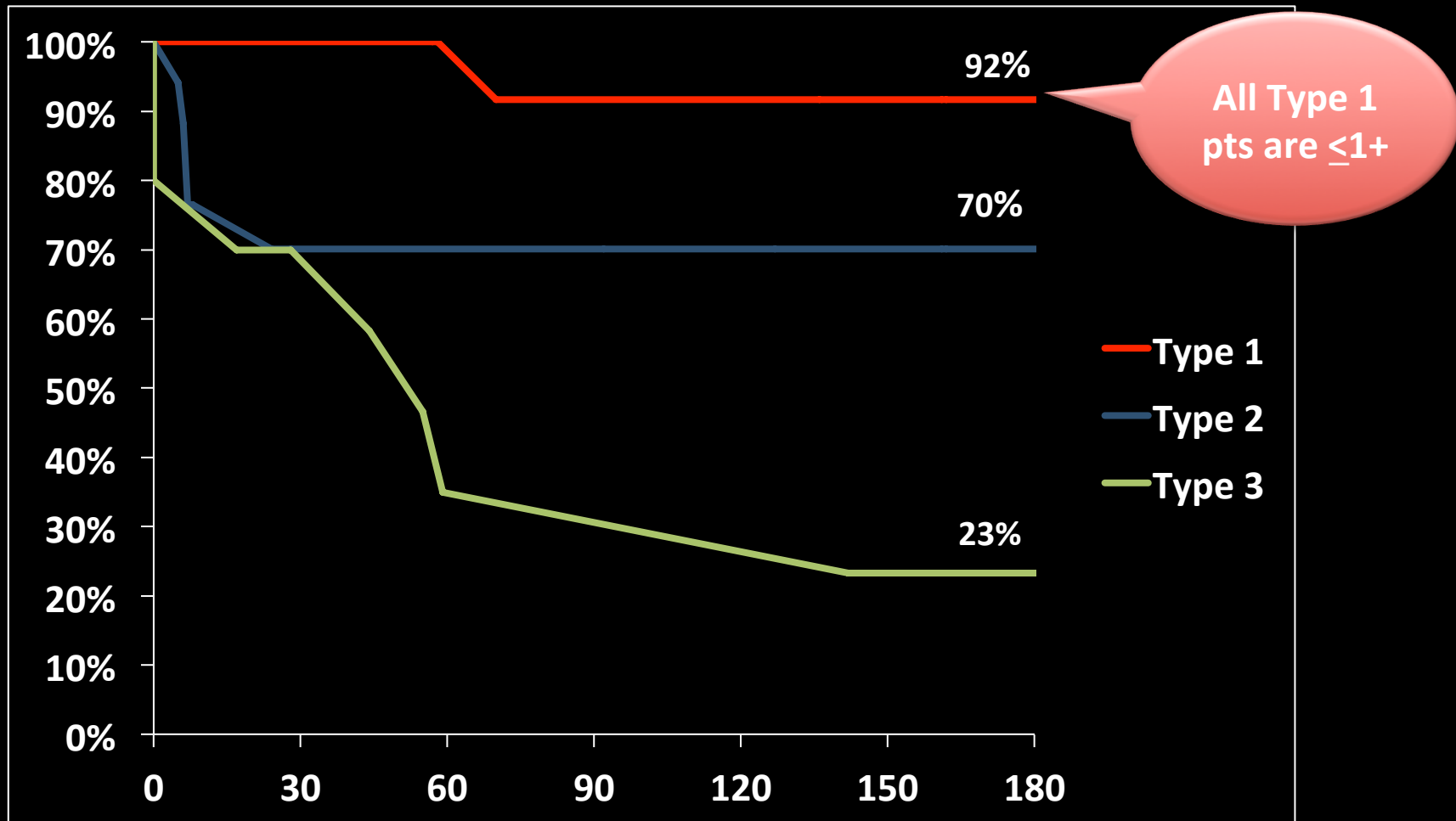


PAT T: 37.0C
TEE T: 37.2C

JPEG

96 bpm

Freedom From MR >2+ By Patient Type



Conclusions

Technique prometteuse pour l'IM dégénérative

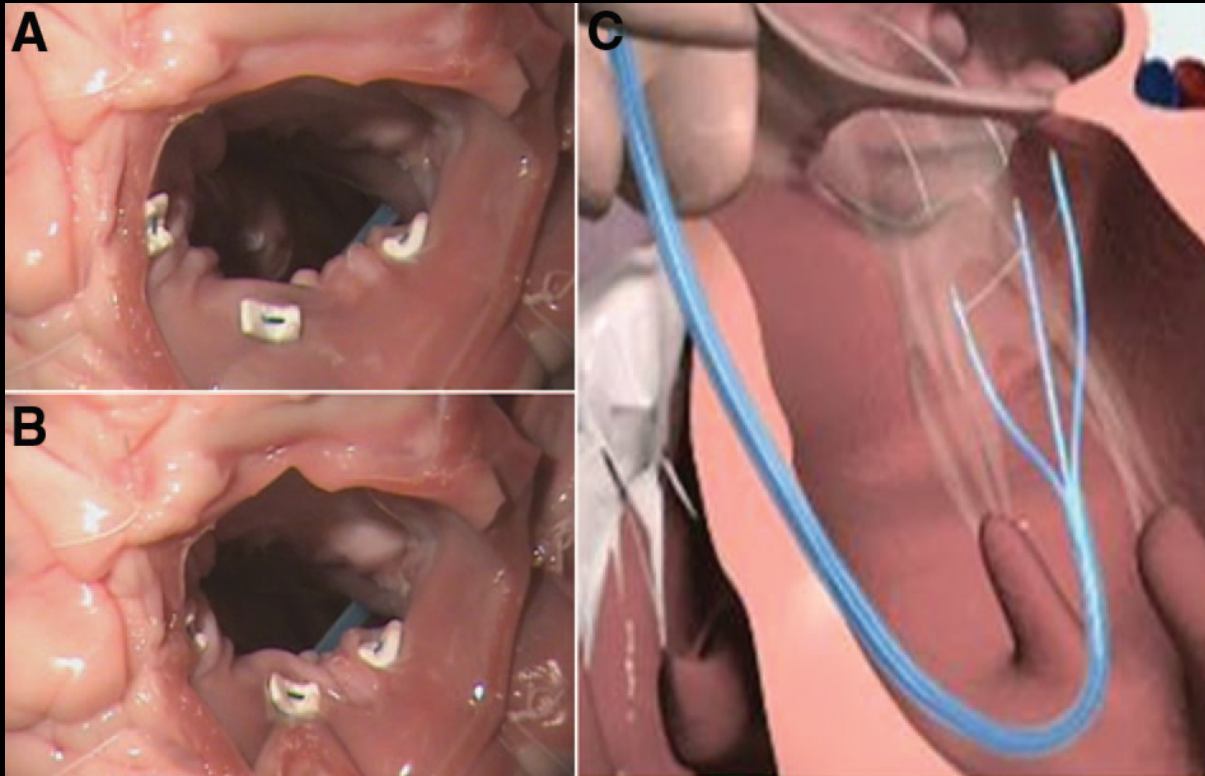
Succès technique d'environ 85 %

Temps moyen de procédure : 2h 10 min

Financement propre à Bordeaux pour la participation au
registre européen post CE-mark (20 patients)

Mitralign

- Principe : Annuloplastie postérieure par plicature

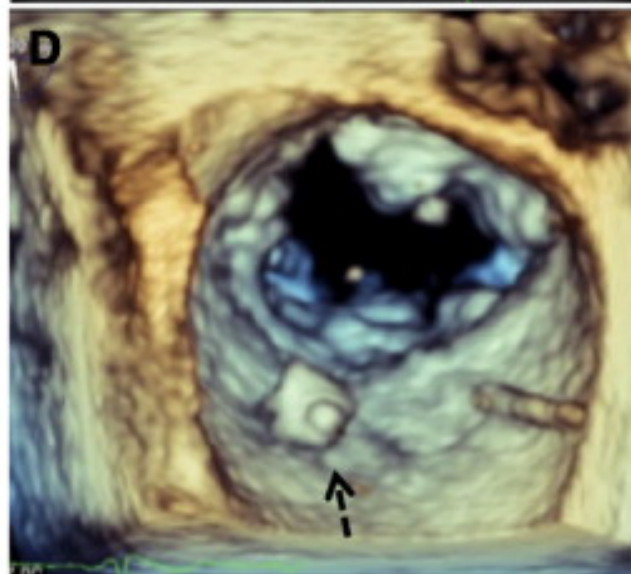
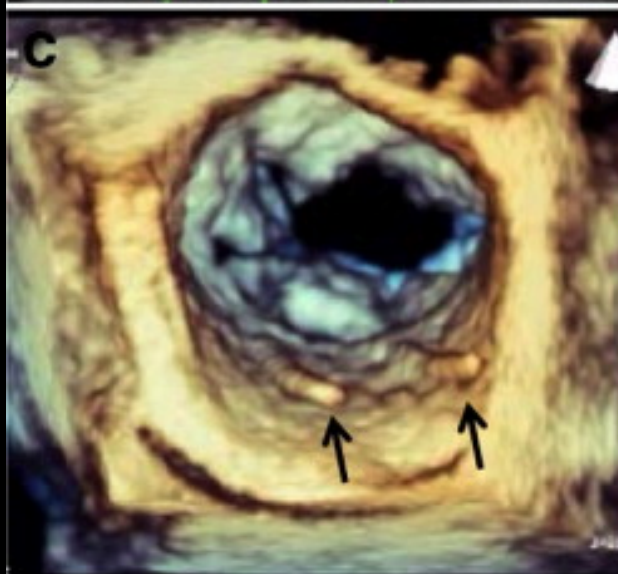
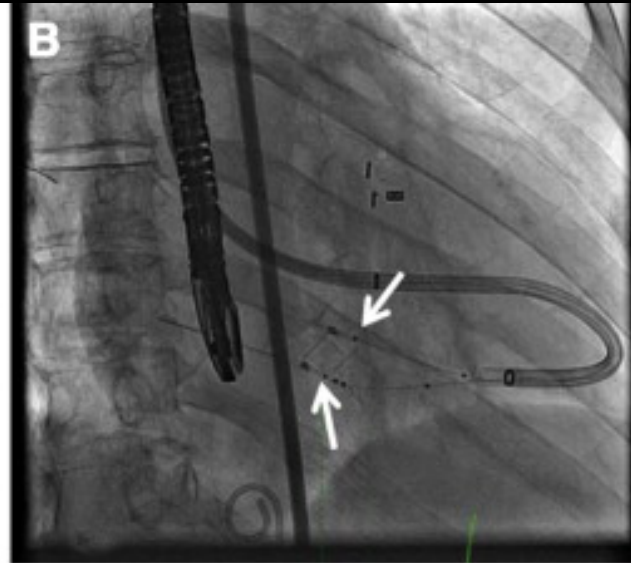
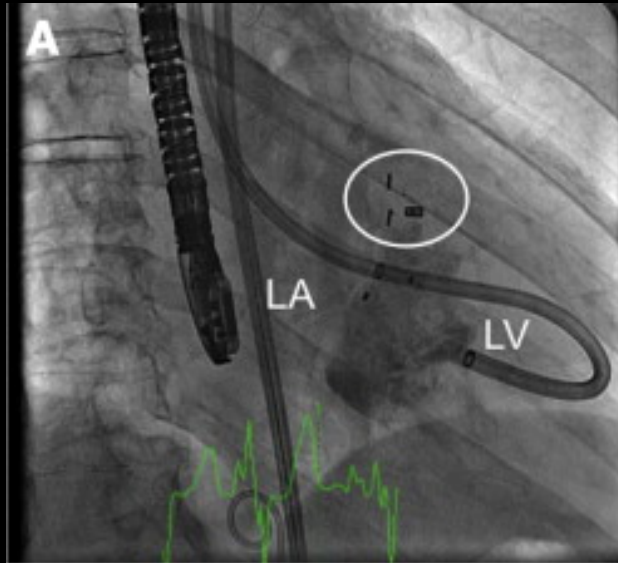


Mitralign

Pledget-delivery handle



Plication-lock handle

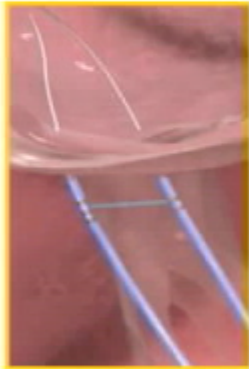


Mitralign

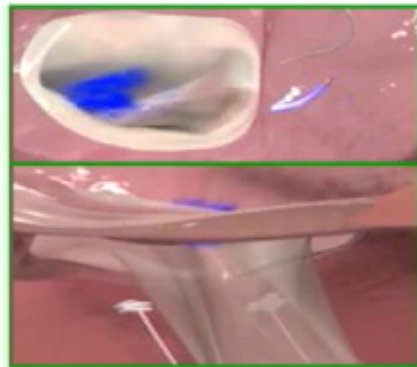
Annuloplastie postérieure par plicature P1 – P3

Mitralign Procedure Steps

Wire Delivery



Pledget Delivery



Plication & Lock



MITRALIGN ADVENTURE

Inclusion/Exclusion Criteria

Inclusion Criteria

- Patient is ≥ 18 years old
- Functional MR $\geq 2+$
- NYHA Class: II-IV
- EF% $\geq 30\%$
- Mitral plane to apex ≥ 5 cm
- Structurally normal valve
- No significant calcification
- No thrombus in LV or LA

Exclusion Criteria

- Organic mitral regurgitation
- Non surgical candidates
- EF $< 30\%$
- Normal ESV, EDV
- Annulus calcifications (*moderate/severe*)
- PCI < 30 days prior the procedure
- CABG < 3 months prior the procedure
- Ischemia requiring revascularization after the procedure but before the primary endpoint

Mitralign

- Etude CE mark
 - 61 patients
 - Safety
 - Pas de mortalité opératoire
 - Efficacité
 - 85 % réduction de l'IM
 - Réduction de l'IM : 1.3 ± 0.5
 - Amélioration fonctionnelle : $p < 0.01$ (6 mois)
 - 6 min walk test
 - QQL

Mitralign

- Technique prometteuse dans l'IM fonctionnelle
 - Encore en évaluation
 - Avantage : ne CI pas un geste secondaire +++
- Participation du CHU de Bordeaux
 - Etude post CE mark
 - IM fonctionnelle
 - Patients CI au Mitraclip (hauteur de PVM +++)

Conclusion

- La valvulopathie mitrale “percutanée” n’en est qu’à ses prémices.
 - L’association chordages artificiels et annuloplastie percutanée permet de couvrir un large spectre de réparation
- L’évaluation précise des résultats à moyens et long terme reste cependant nécessaire

Le futur ...

