



# ELECTROSURGERY – NOVÝ KATETRIZAČNÍ SMĚR

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Chovančík Jan, Jiravský Otakar

Kardiocentrum Agel Třinec Podlesí

# Electrosurgery – seznam výkonů

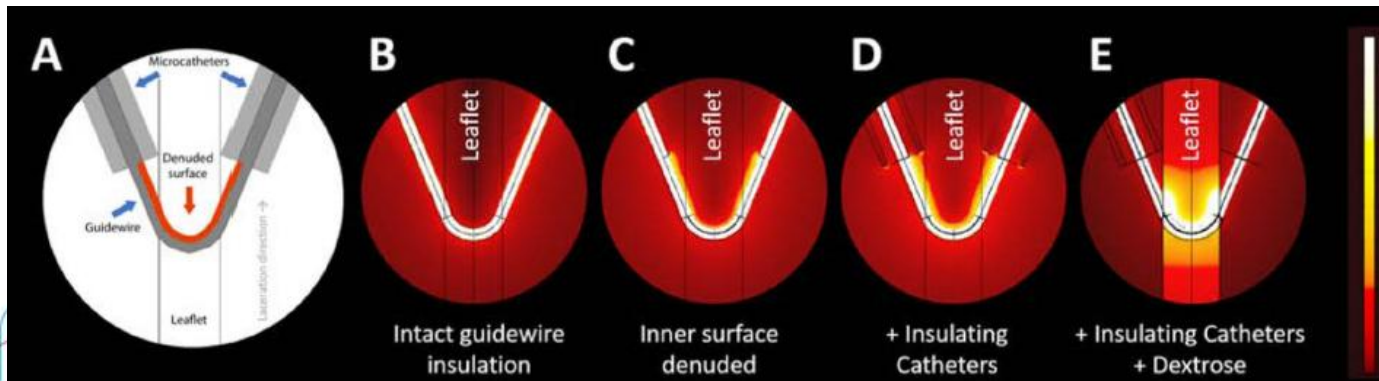
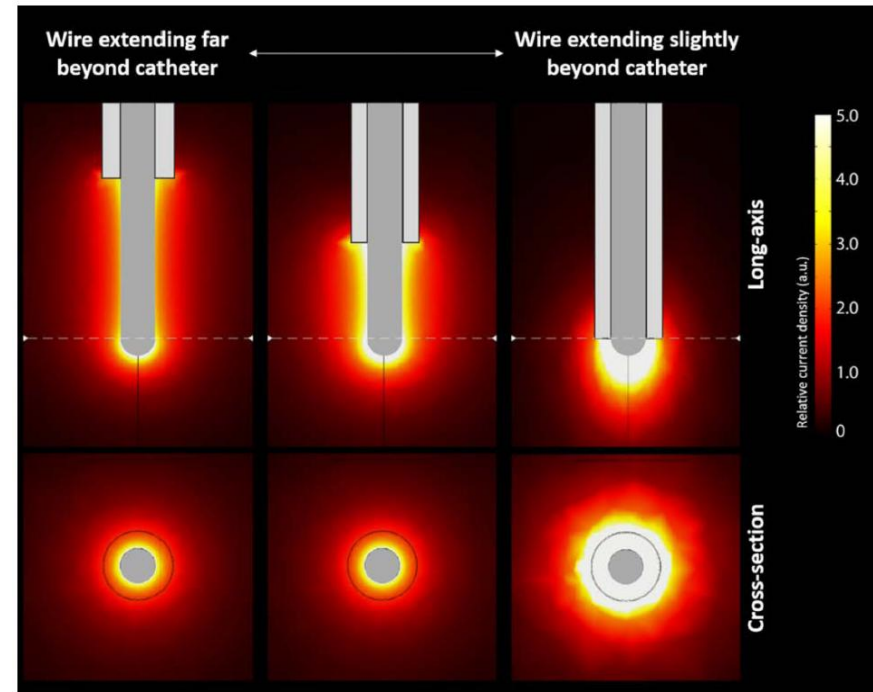
- Perforace (plicní chlopeň, síňové septum, cévy, Botalova dučej)
- Basilica
- Lampoon
- ElastaClip
- Sesame
- Seattle

# Electrosurgery

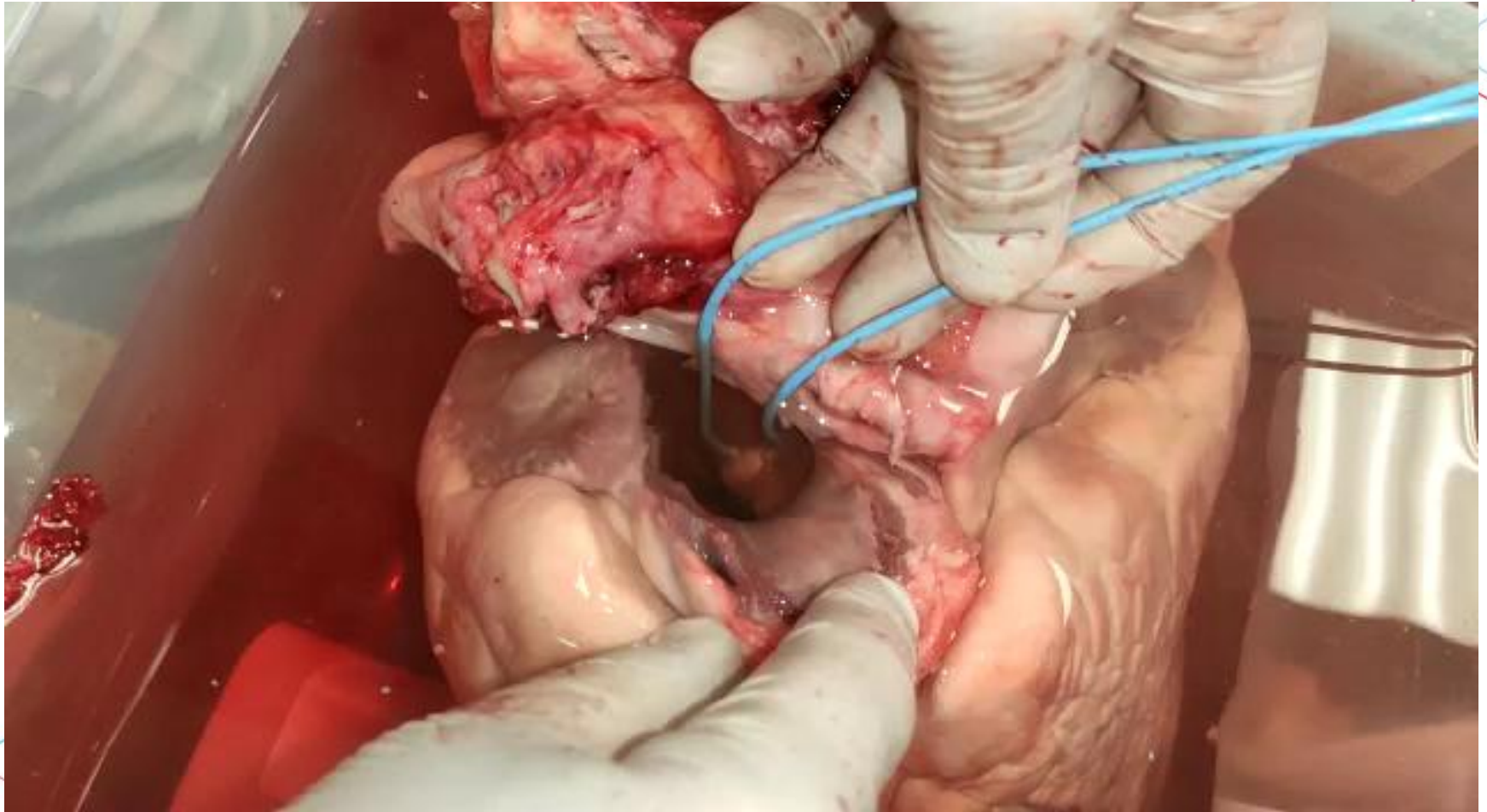
- Používá radiofrekvenční proud cca 500 KHz v modu „cutting“
- Koncentrace energie způsobuje lokální zahřátí a vaporizaci tkáně
- Chirurgická kauterizace teplem na konci nástroje dělá koagulaci
- Electrosurgery používá pouze unipolární zapojení

# Electrosurgery

- Odizolace vodiče
- Izolace od krve (Dextrosa nebo glukosa)
- Aplikace energie



# Electrosurgery



# Electrosurgery

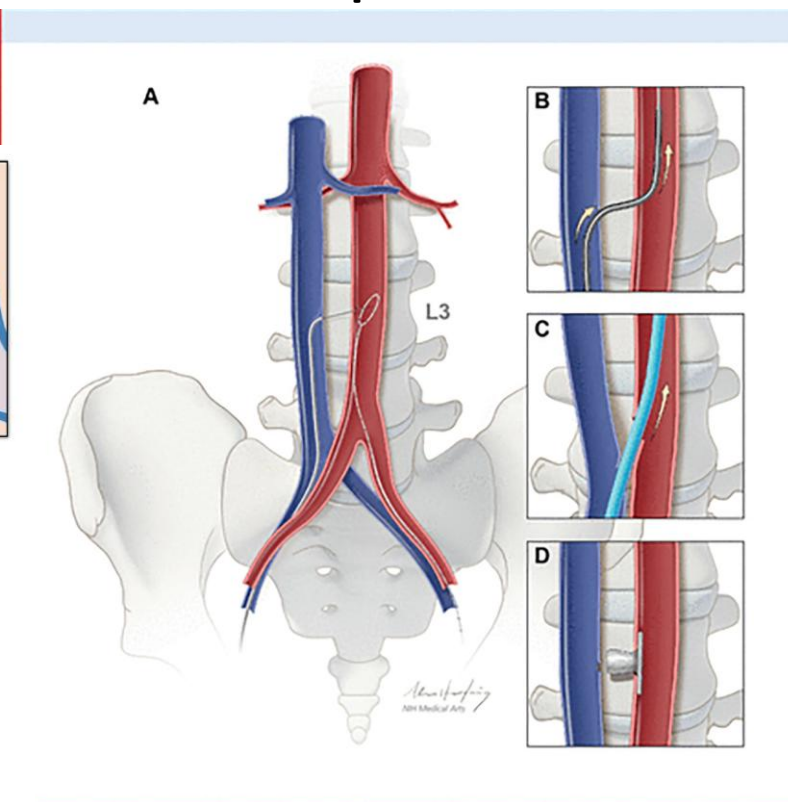
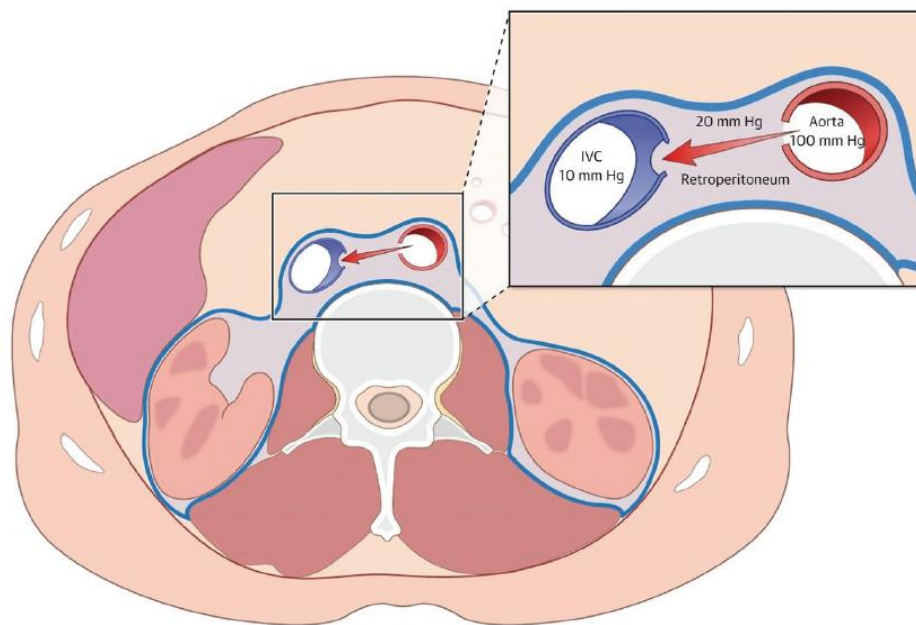


# Perforace

- První perforace atrezie plicní chlopně s balónkovou dilatací
- Rekanalizace trombózy VCS, periferní tepny, IVS, reversní POT
- Sporadicky používáme u extrémně silných a tuhých sept při transeptální punkci

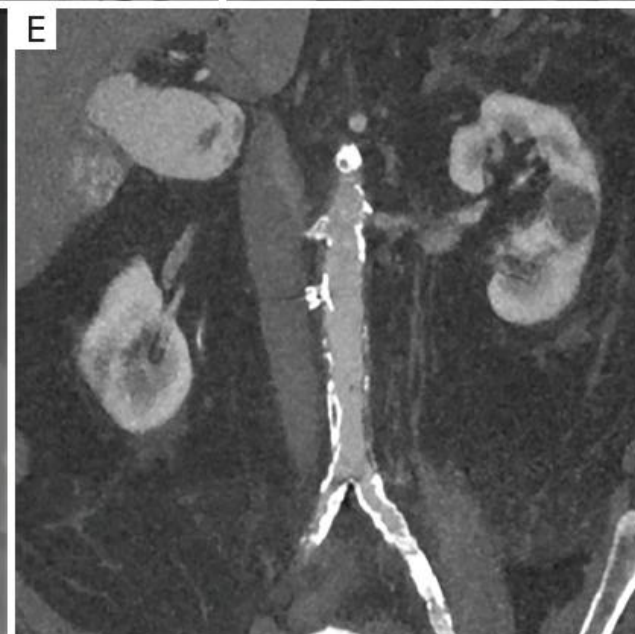
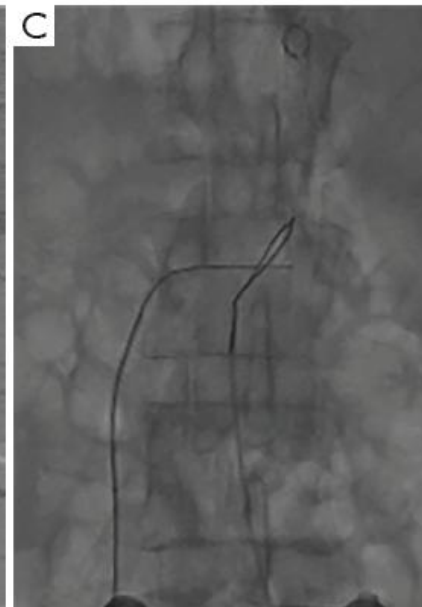
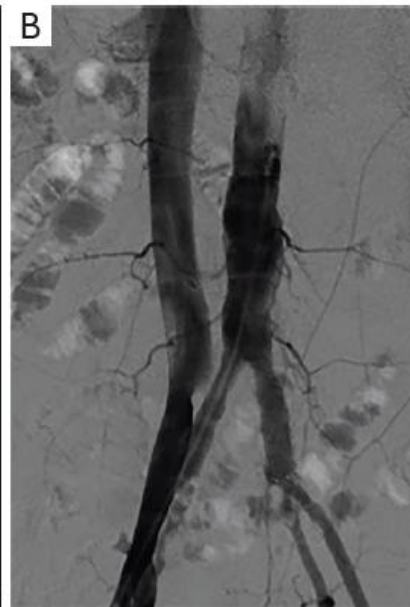
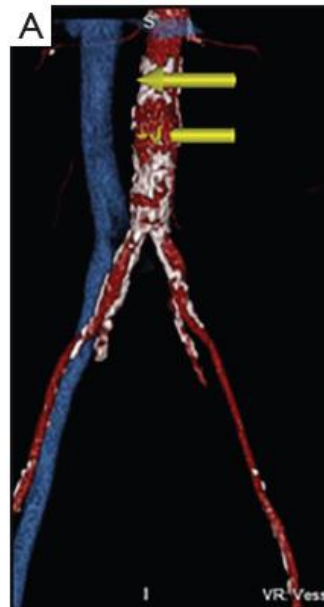
# Perforace

- Při nedostupném arteriálním vstupu u TAVI transcavální perforace





# Perforace



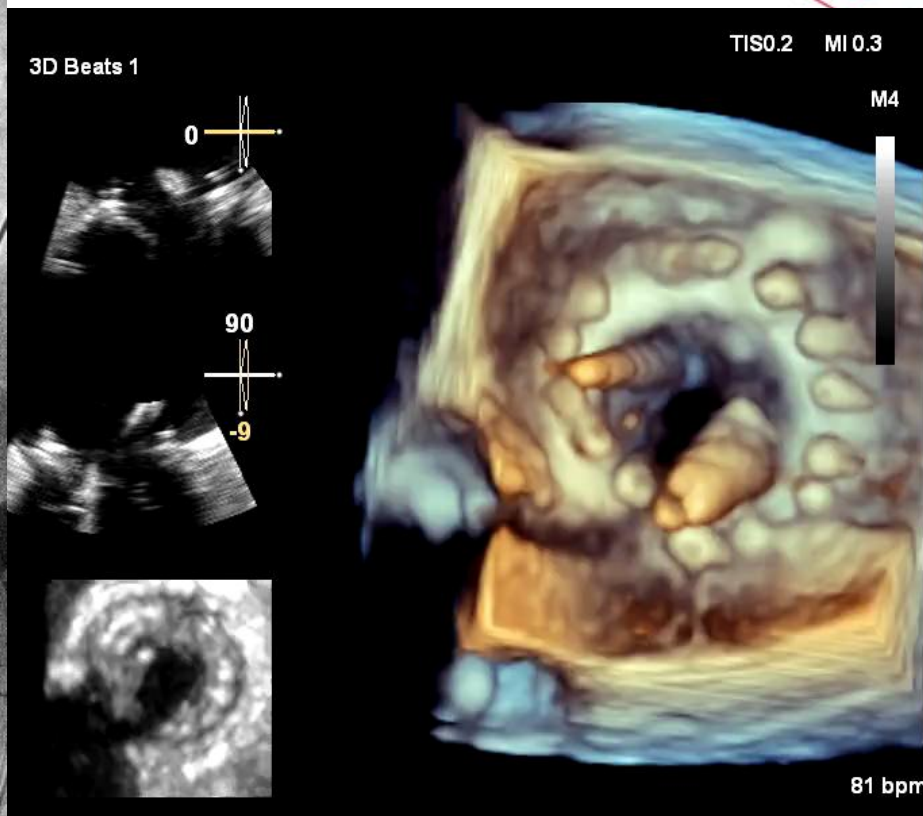
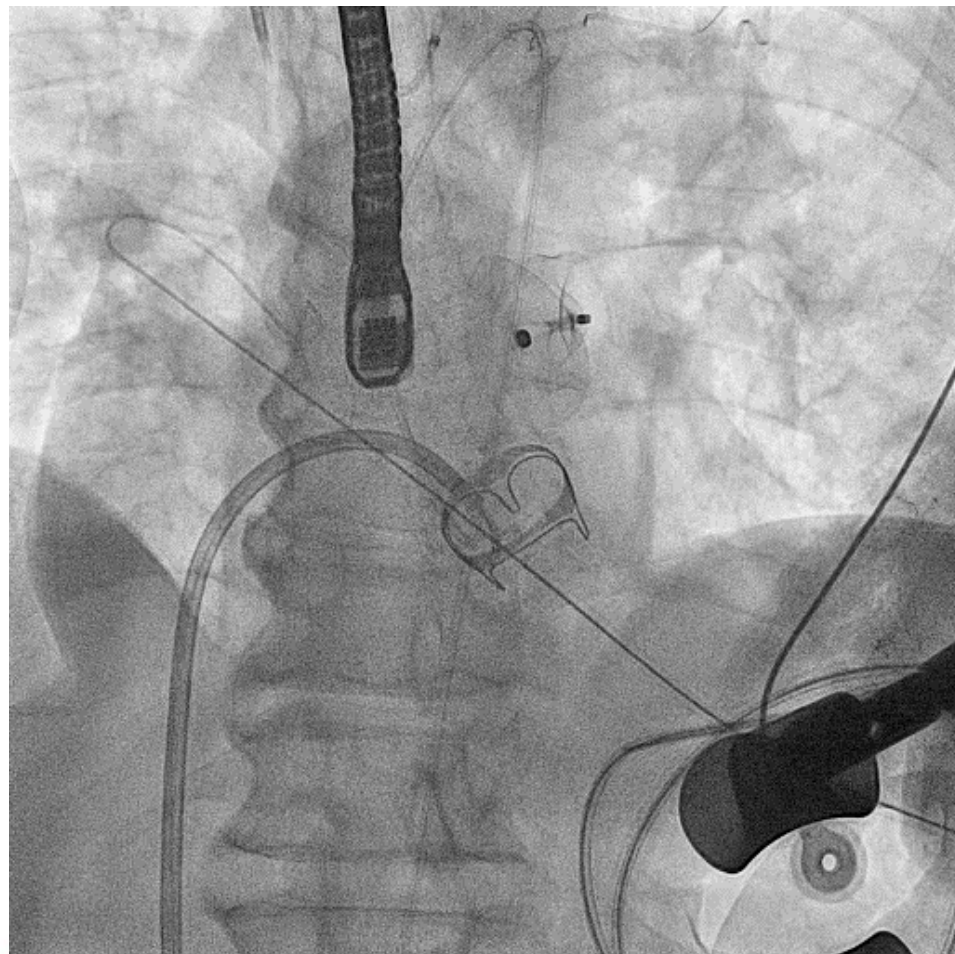
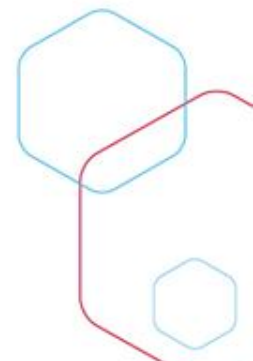
# Lampoon

- Indikace: riziko vzniku obstrukce LVOT při katetrizační implantaci mitrální chlopně
- Retrográdní Lampoon – perforace předního cípu a zachycení vodiče v LS s prořezáním cípu pomocí „flying V“
- Antegrádní Lampoon – transeptálně katetr ze zavedením vodiče do LVOT a aorty. Jen u pacientů po BioMVR nebo anuloplastickém prstenci

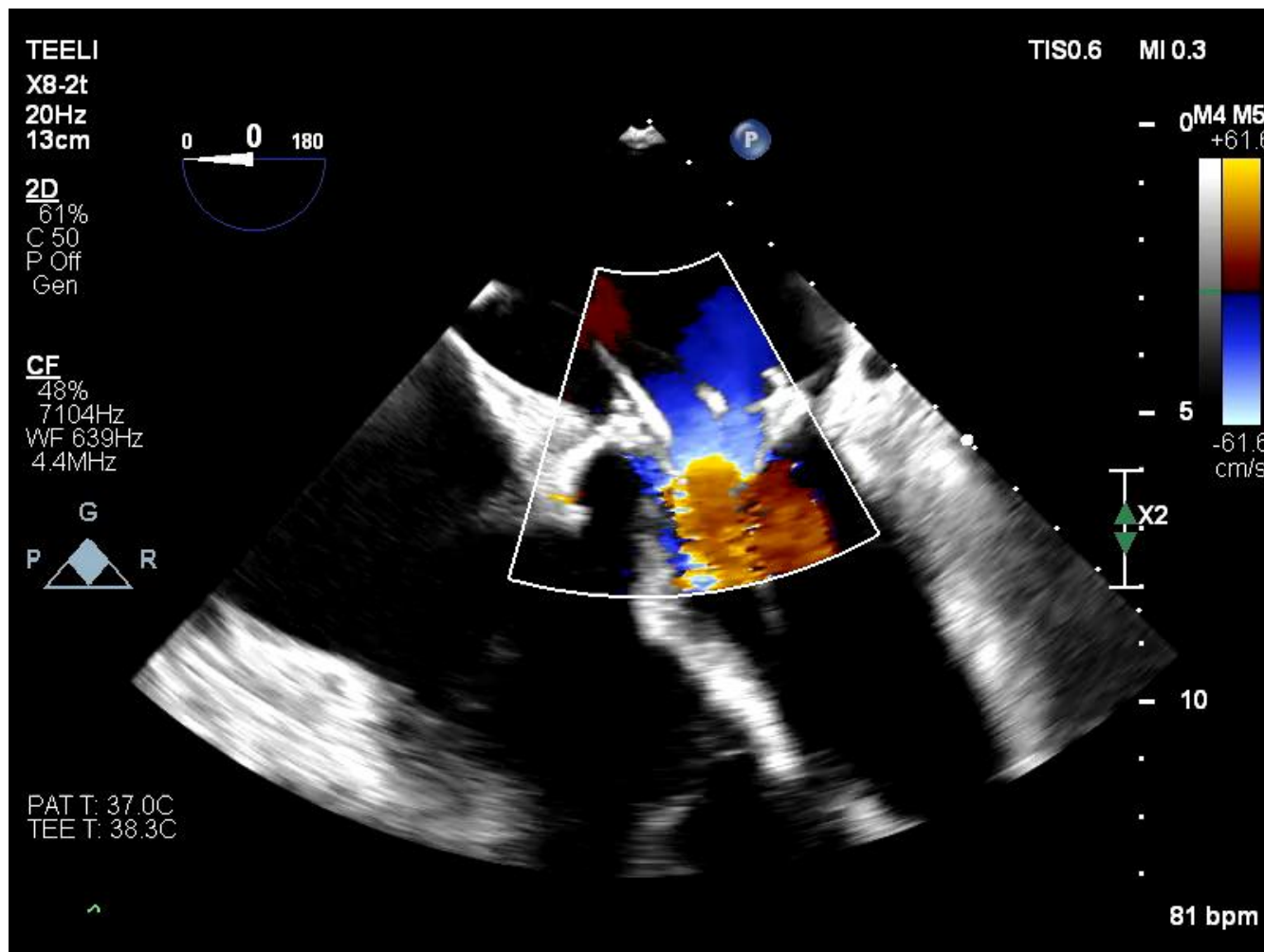
# Lampon



# Lamproon

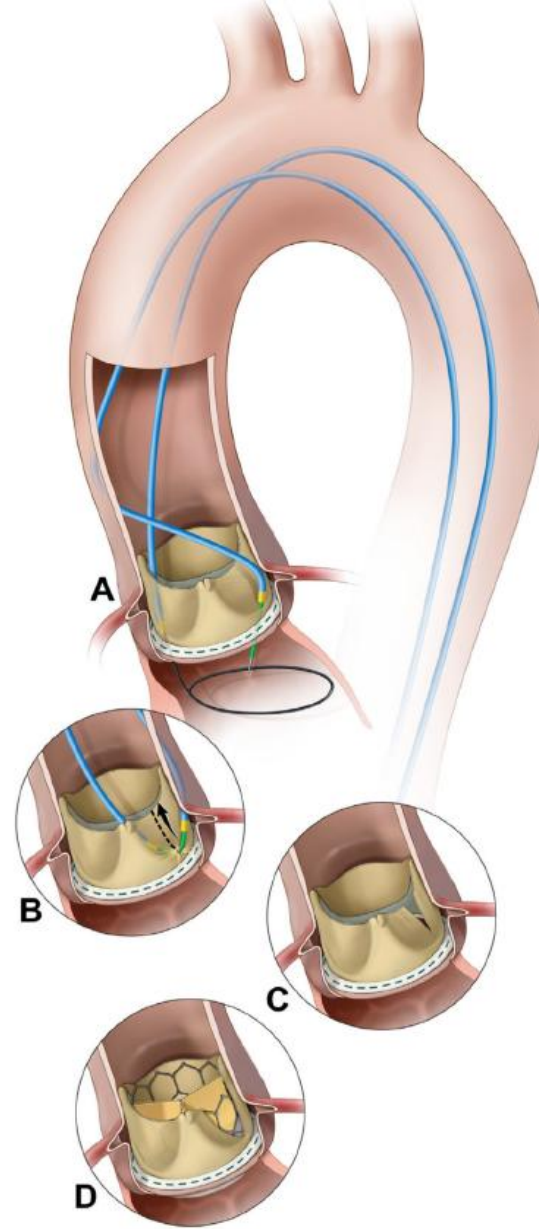


# Lampon

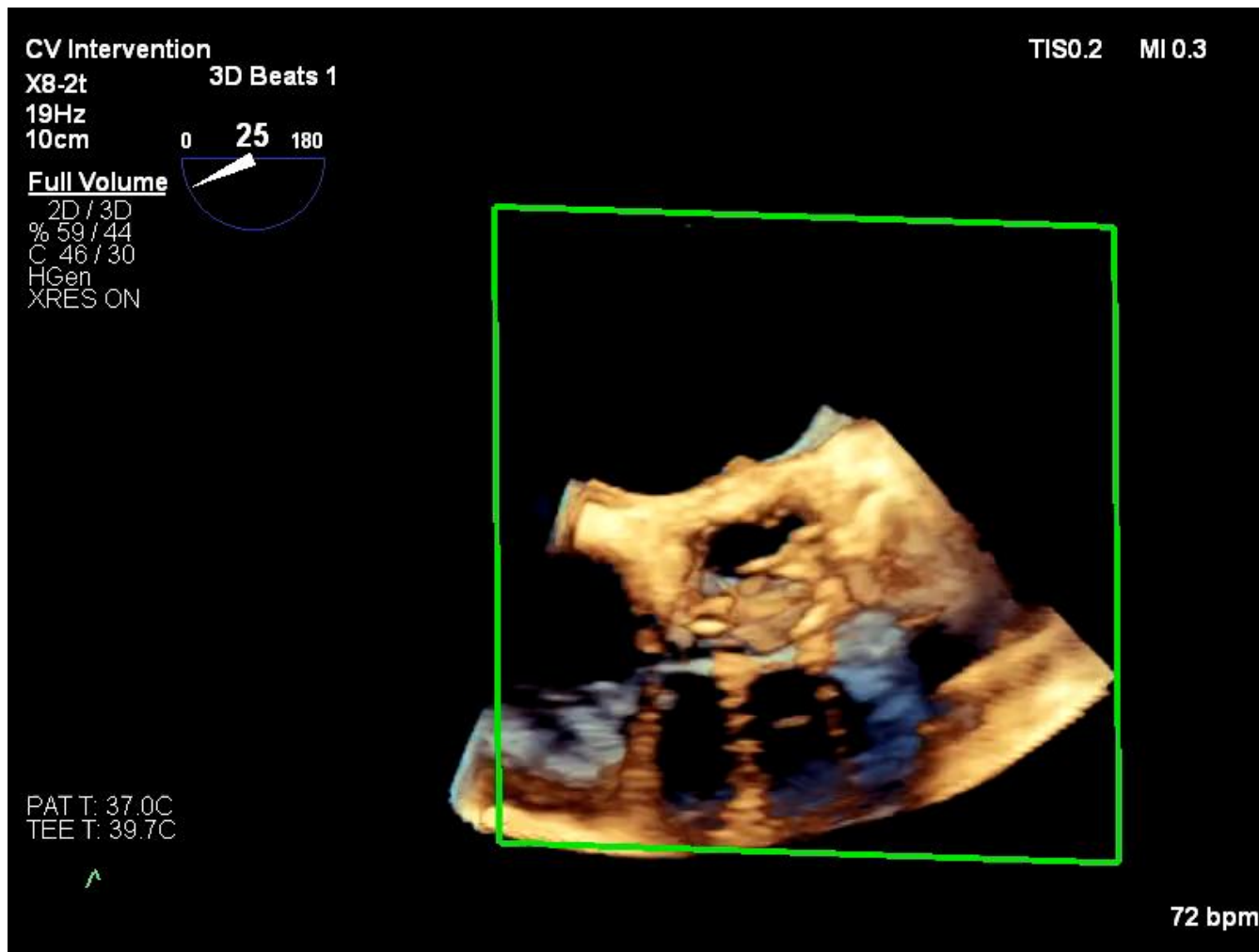


# Basilica

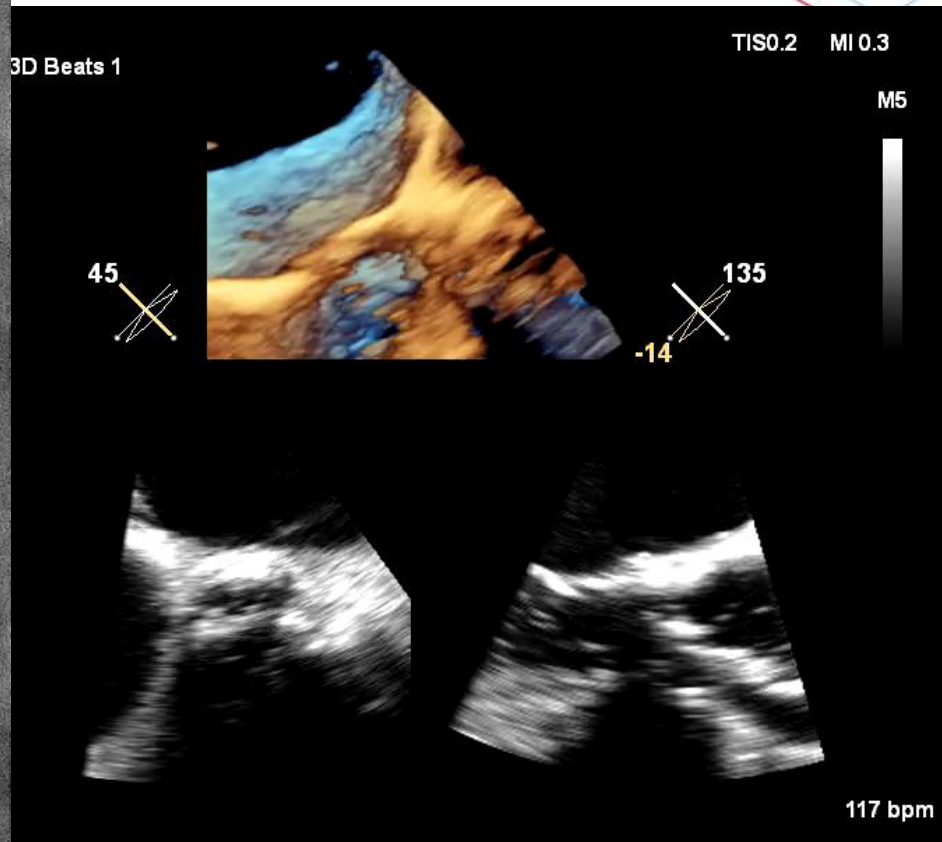
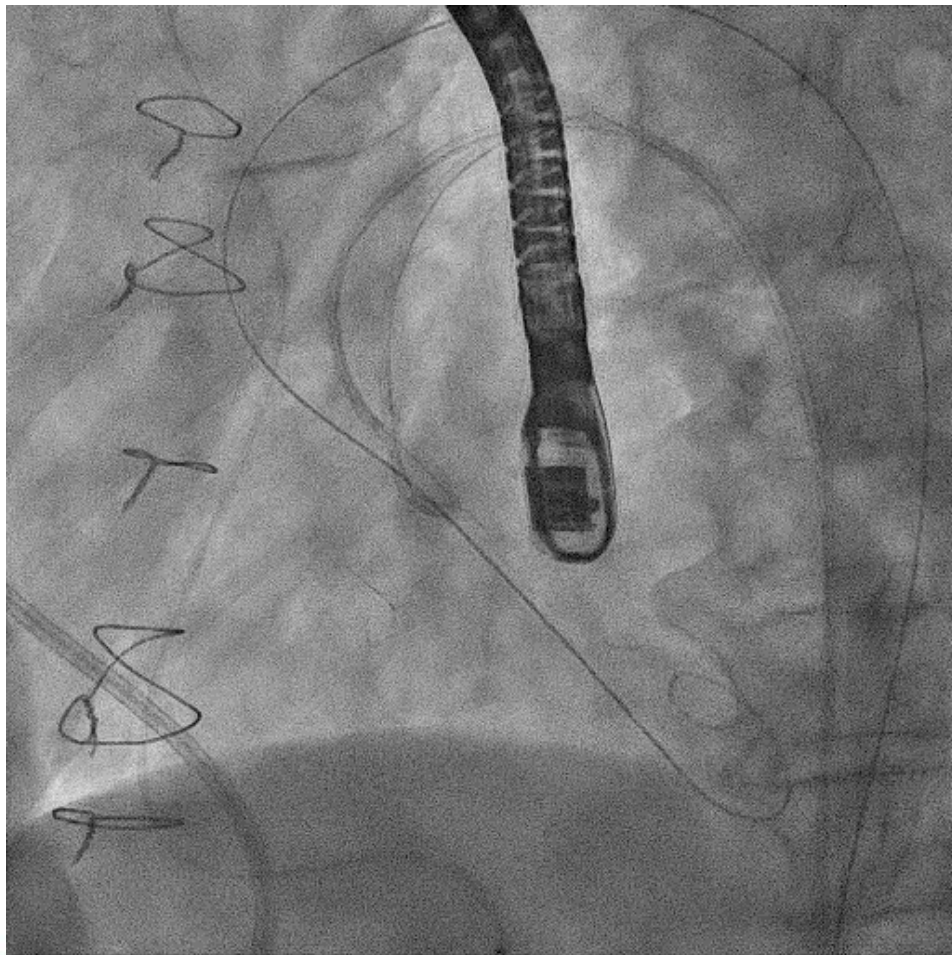
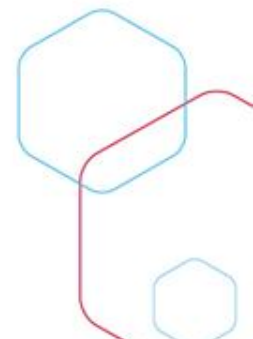
- Při nízkém odstupu ACS a ACD
- Nativní chlopeň BioAVR, TAVI, BAO



# Basilica

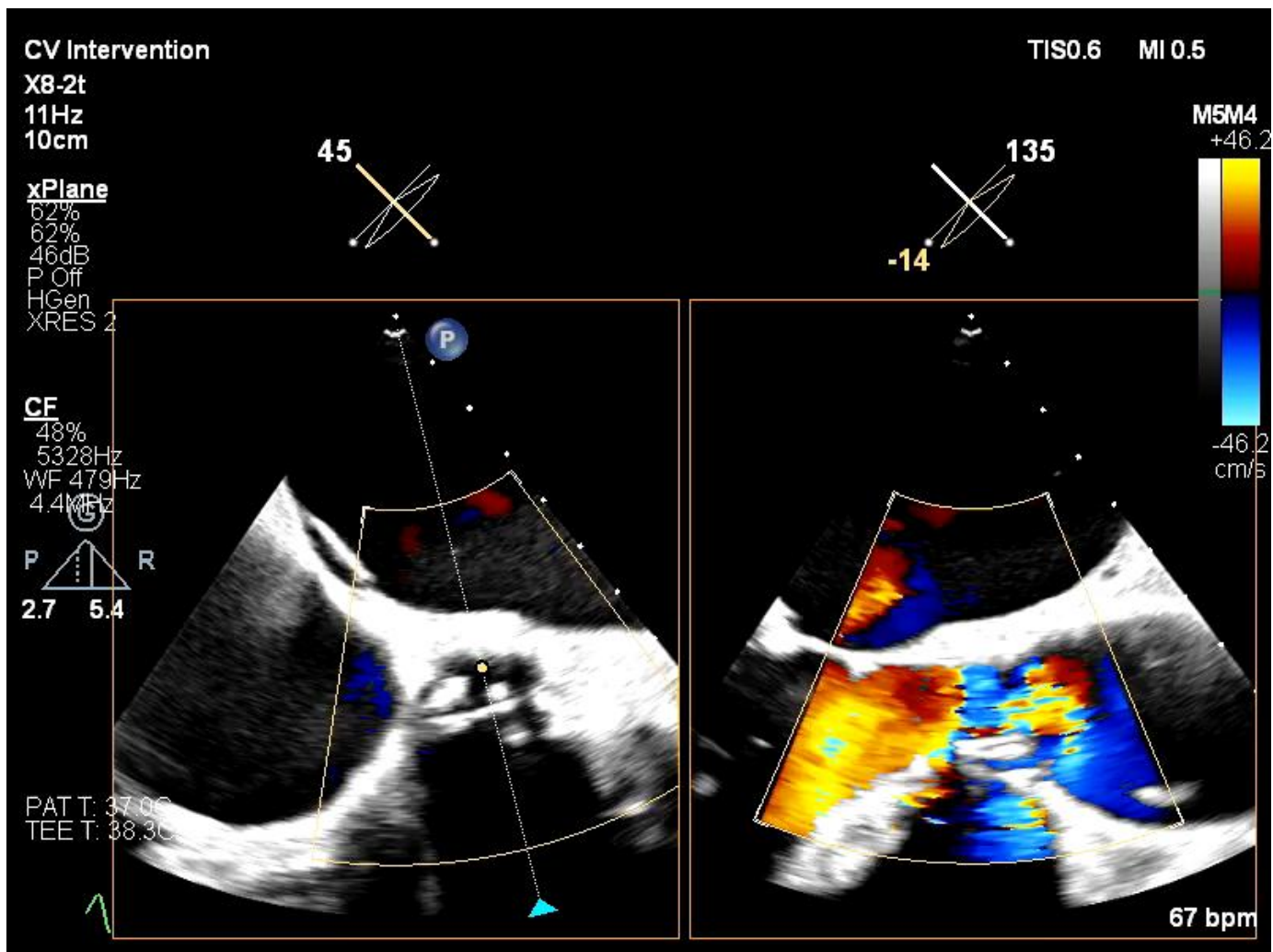


# Basilica





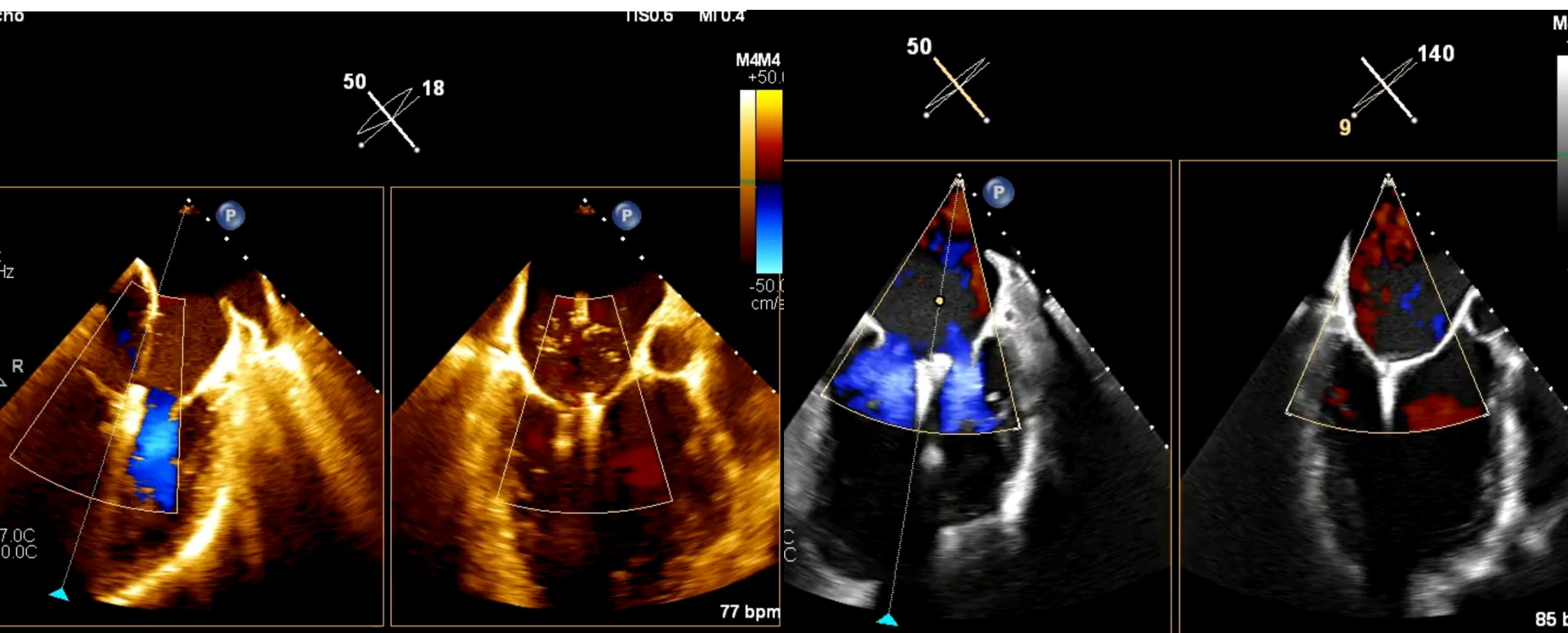
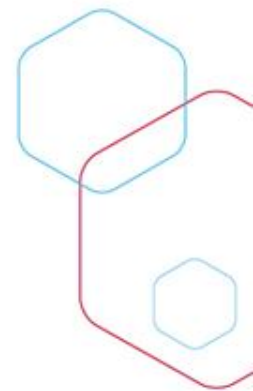
# Basilica



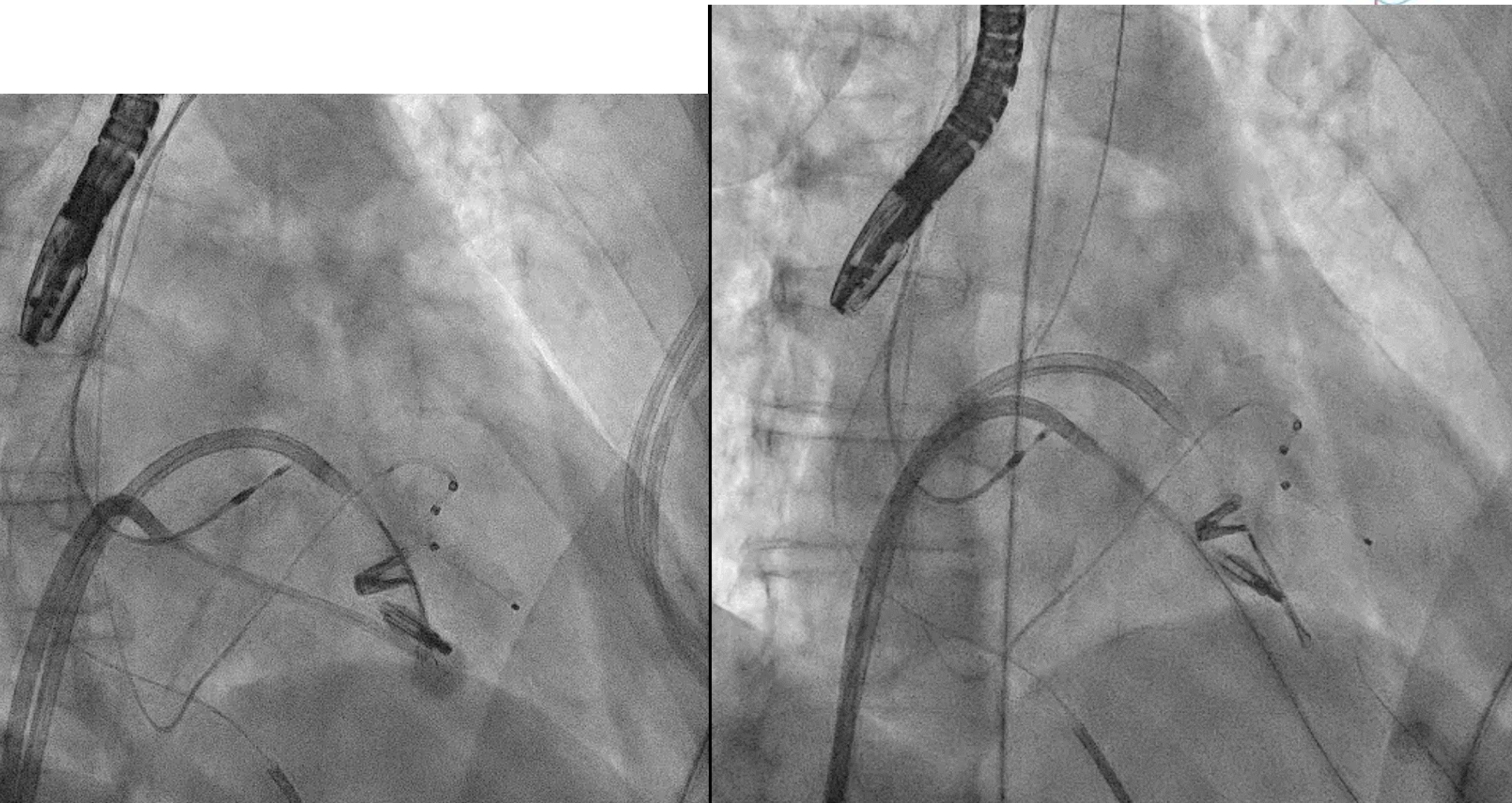
# Elasta

- Nefunkční MitraClip (SLD, progresse MiR)
- Průchod 300 cm vodič z later části od klipů a snaring z mediální části od klipů
- Odpálení části předního nebo zadního cípu s klipy pomocí „flying V“
- Implantace chlopně

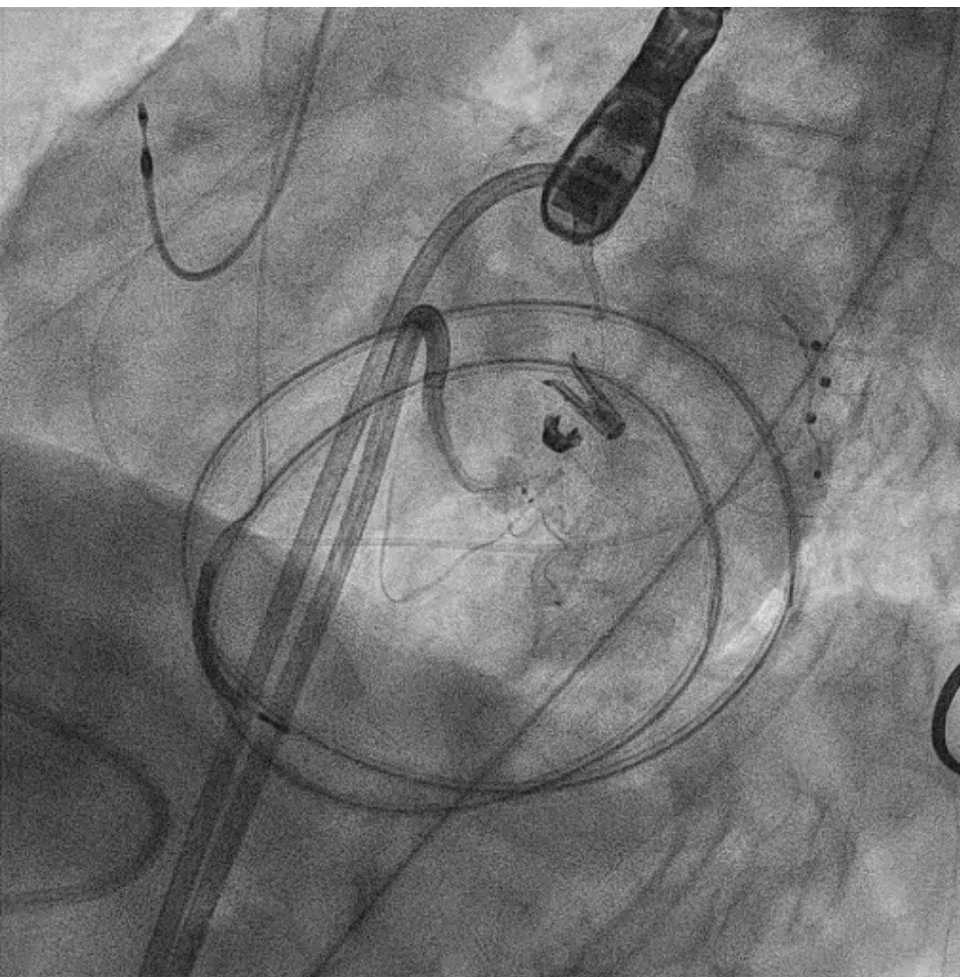
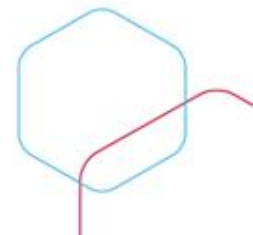
# Elasta



# Elasta



# Elasta



TEELI  
X8-2t  
18Hz  
18cm

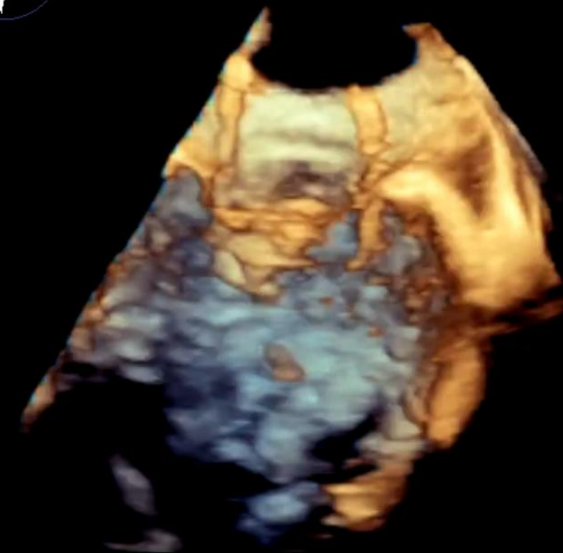
3D Beats 1

TISO.2 MI 0.5

3D Zoom  
2D / 3D  
% 48 / 45  
C 50 / 30  
HGen  
XRES ON

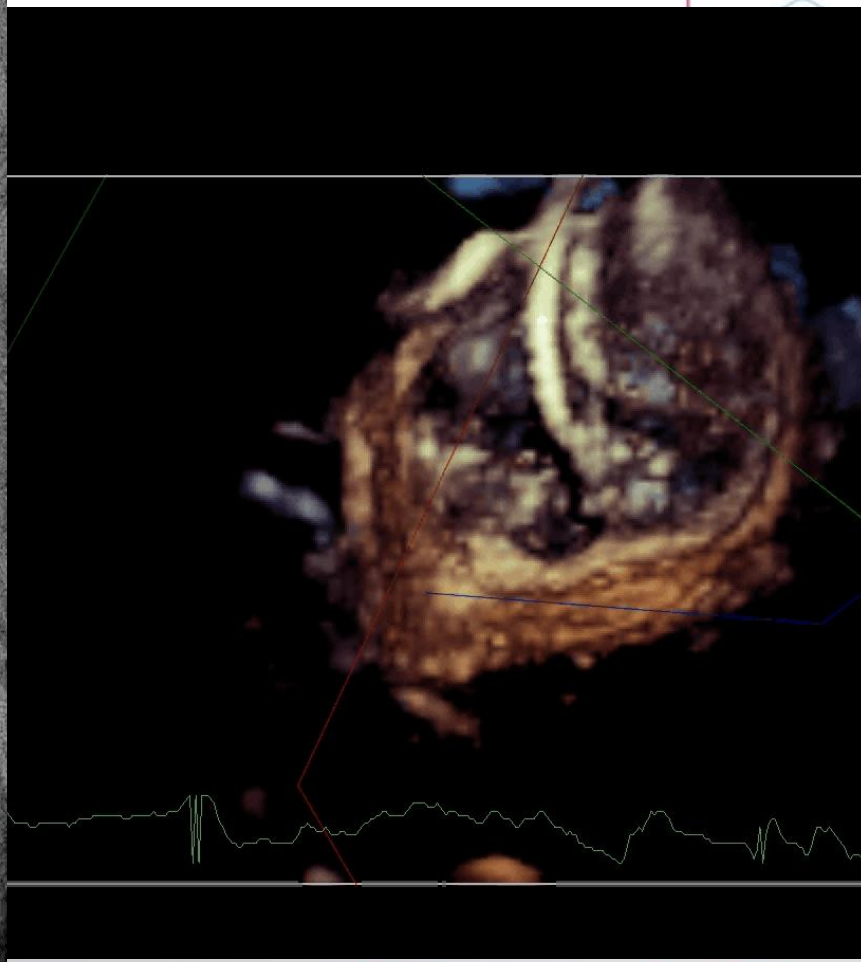
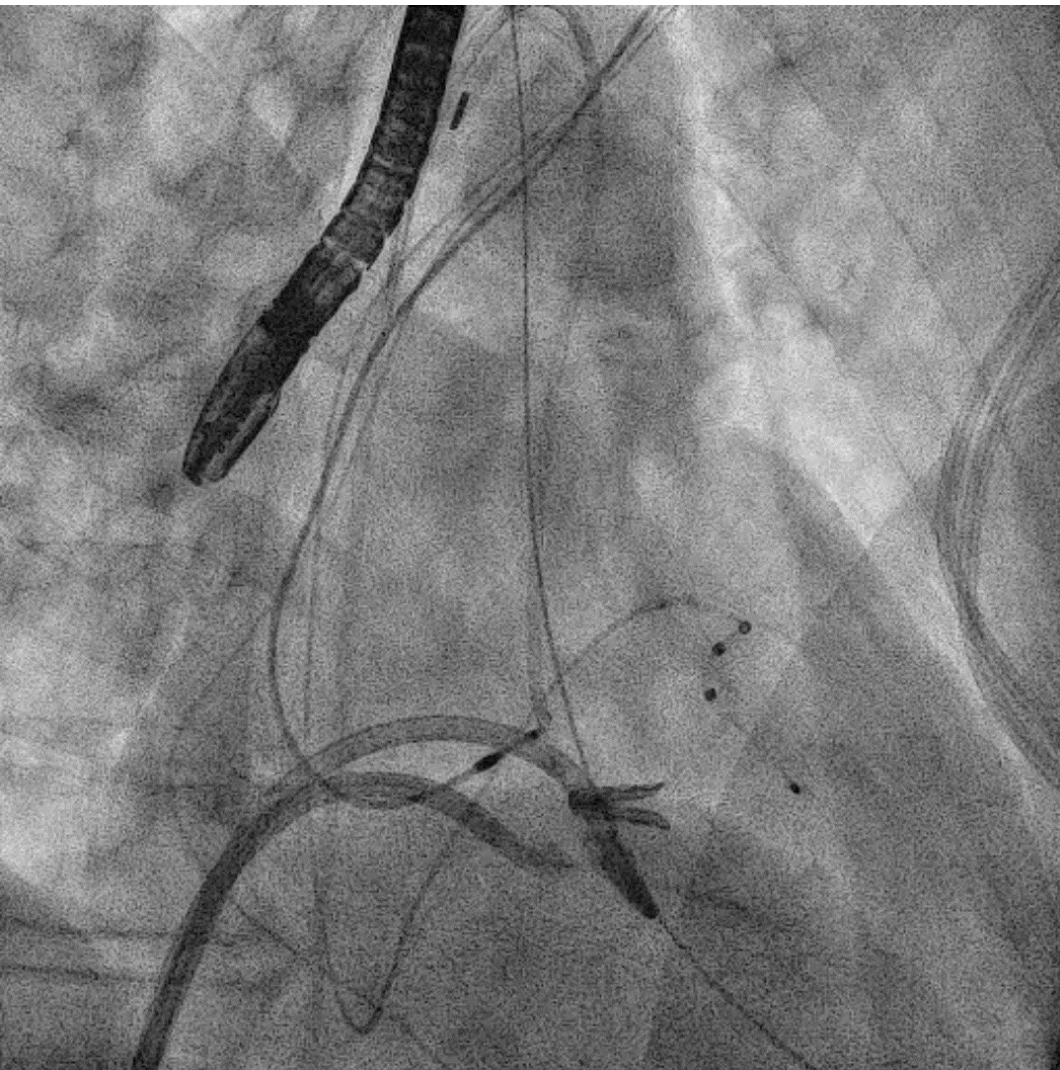


PAT T: 37.0C  
TEE T: 39.2C

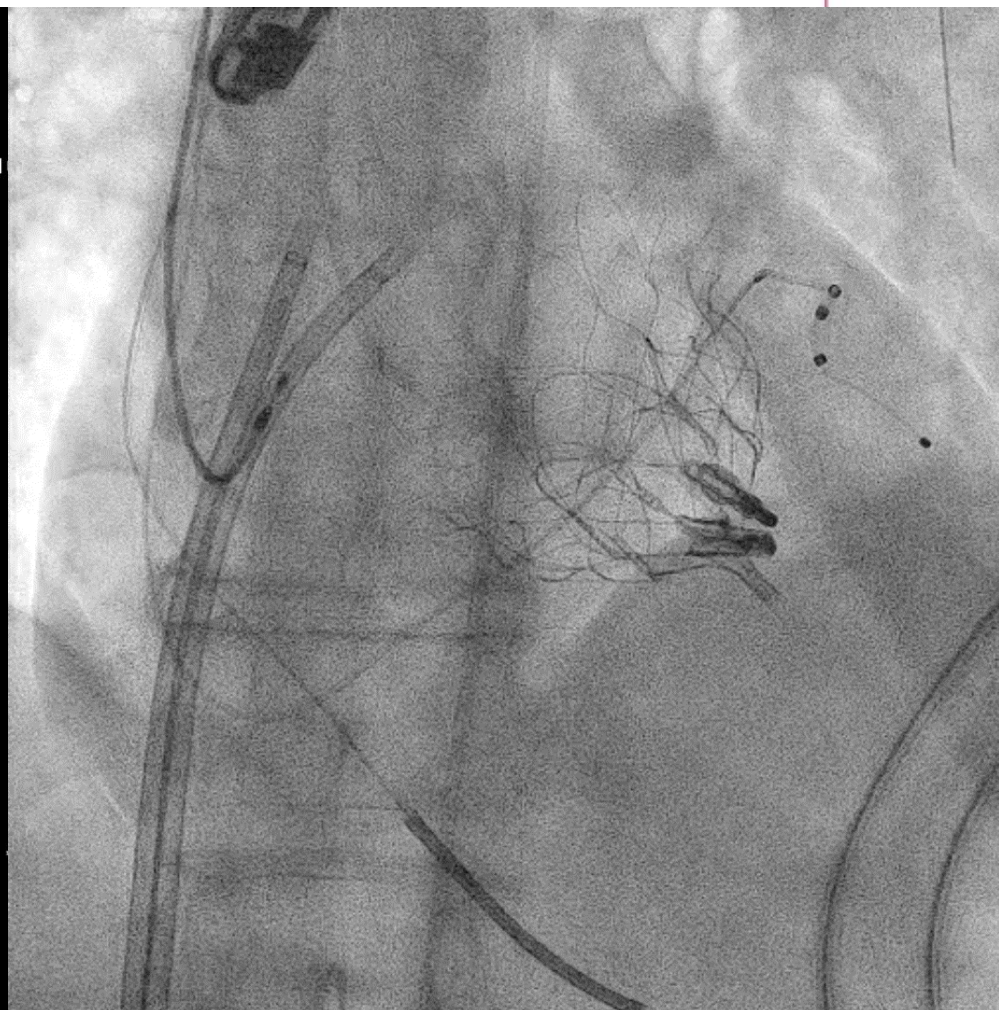
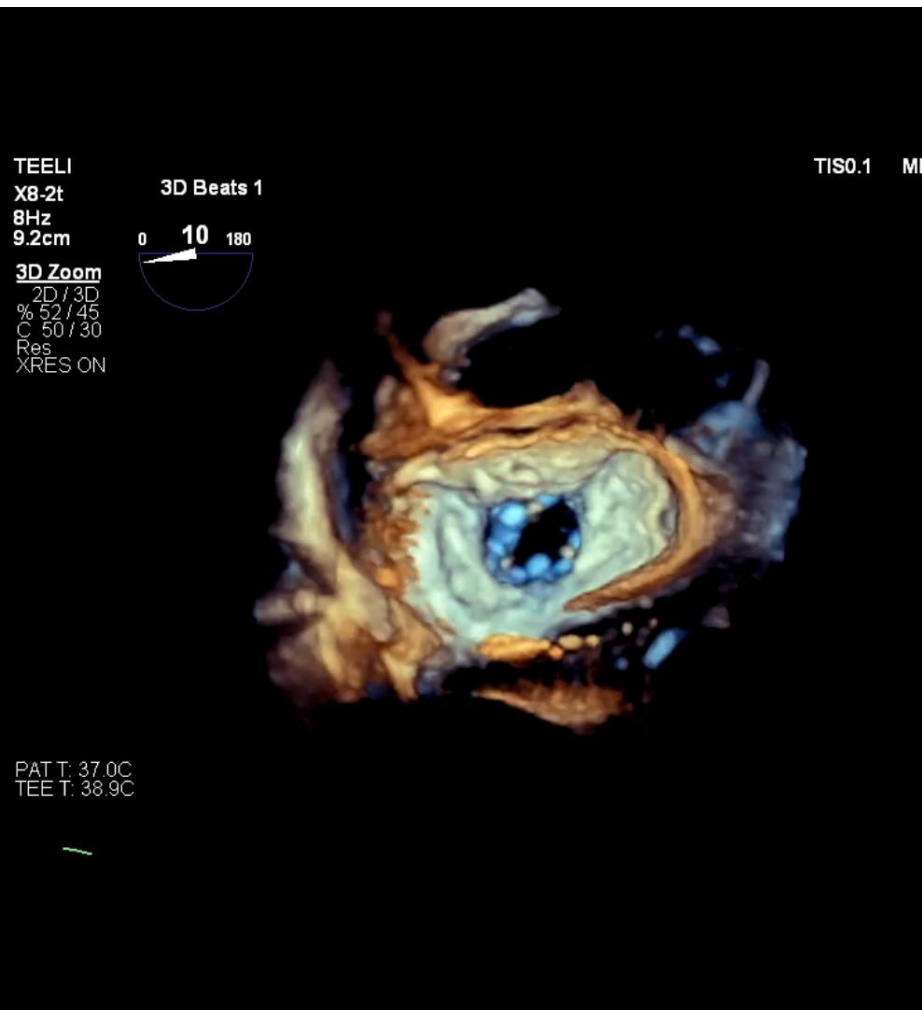
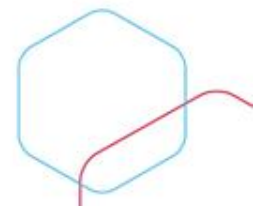


30 bp

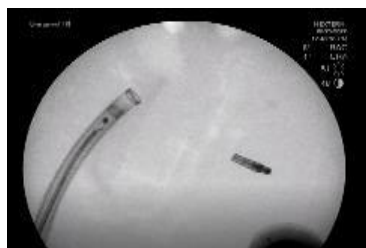
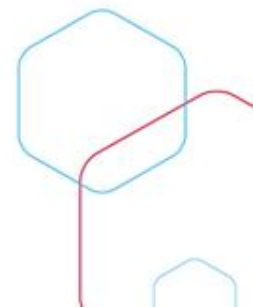
# Elasta



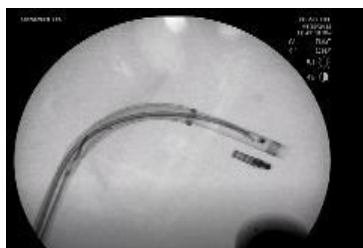
# Elasta



# Procedural Sequence



1) Navigate to LA



2) Cross valve



3) Deploy inner shafts



4) Attempt to snare clip



5) If unable to snare, cut chordae in contact with clip



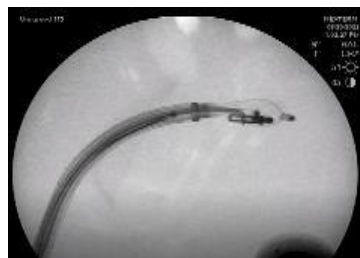
6) Verify chordae were cut



7) Snare clip



8) Cut clip free from leaflets



9) Deploy Basket



10) Capture clip and remove



## Case #2 Executive Summary - TRIN-P001 – 13 Mar 2024

Patient/Implant Details	
Patient Age	63yo
Gender	Male
Clip Model	MitraClip XTW
Clip Implant Date	May-2023
Arm opening width	8.9mm
Clip Tilt	Posterior & Medial
Primary Operator	Dr. Jaroslav Januska
MD Proctor	Dr. Paul Sorajja

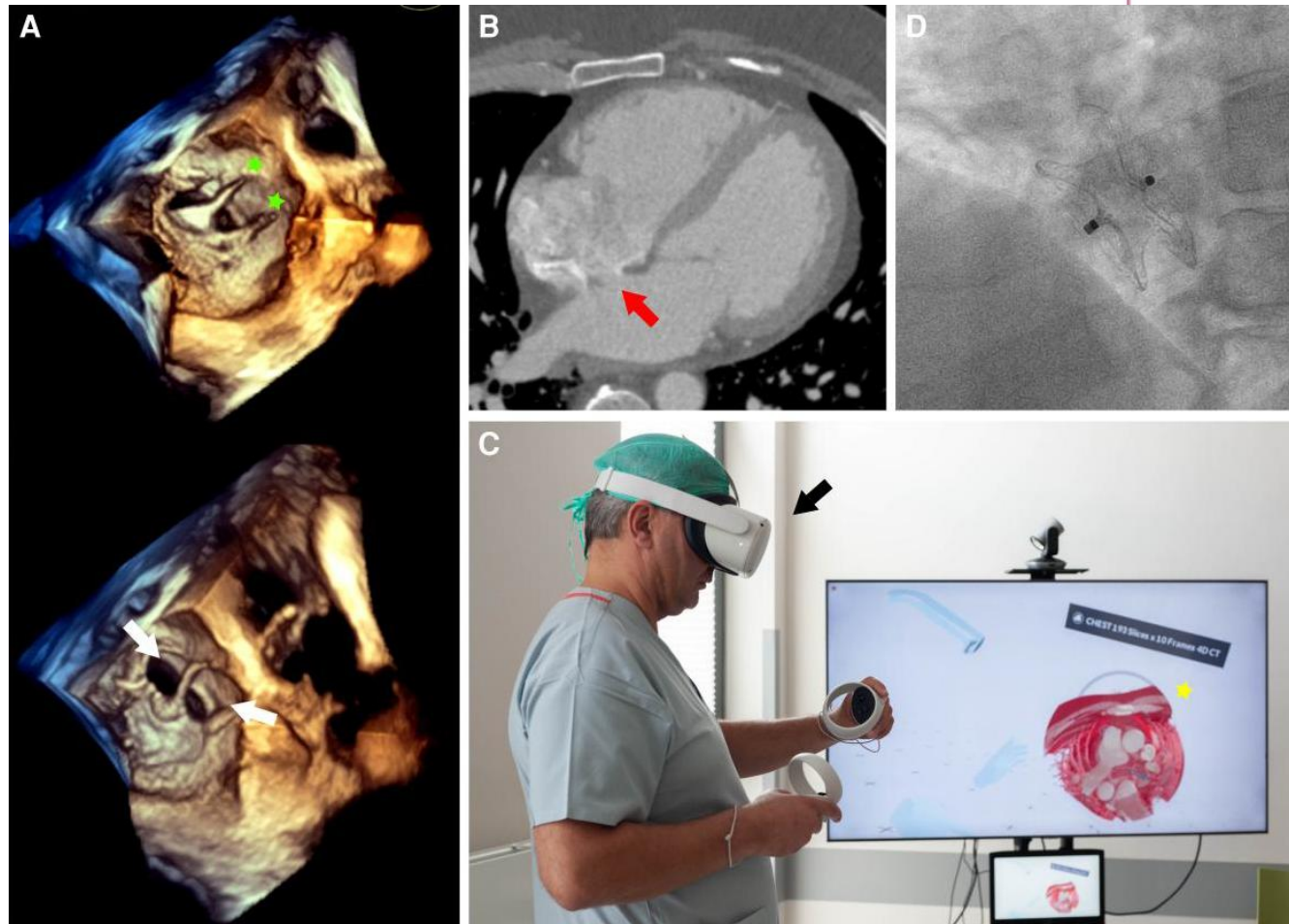
Procedural Results	
Chordal Obstruction Present	Yes
Clip Successfully Removed	Yes
Hemodynamic Support Required	No
AMX Procedure Time (skin-to-basket)	27min
Follow on Valve Therapy	Tendyne



- Minimal excess tissue removed with the TEER clip -

# Resekce šlašiniek

Obejítí šlašiniek  
a resekce  
pomocí „flying  
V“

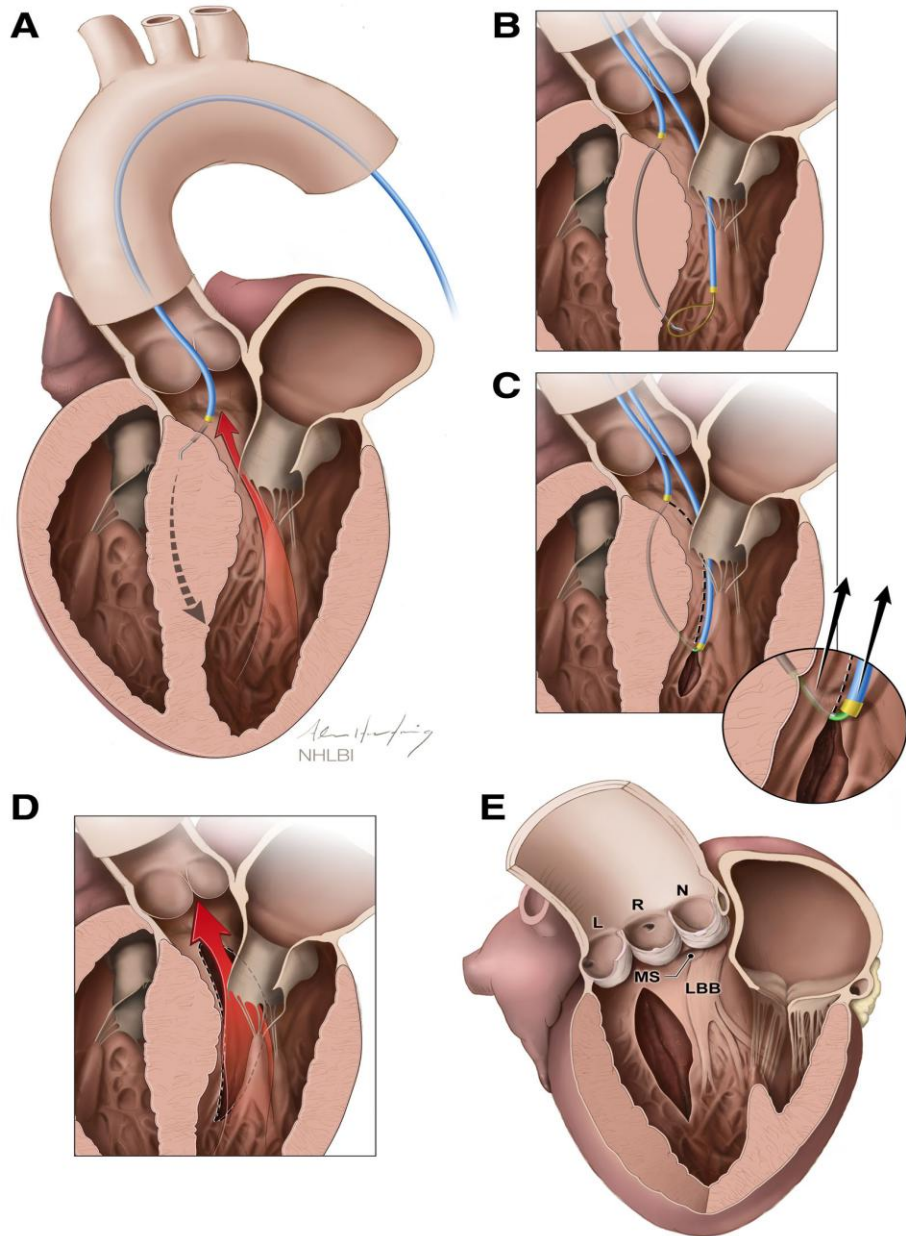


# Sesame

Redukce obstrukce u  
HOCM

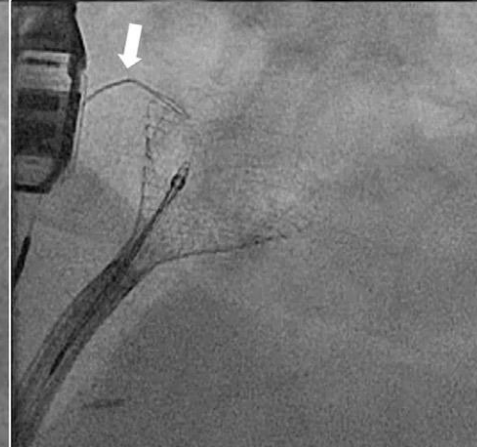
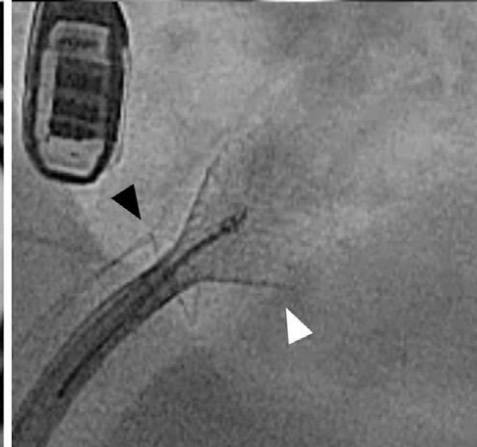
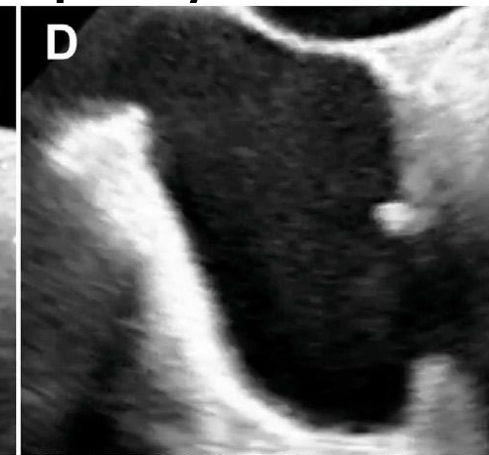
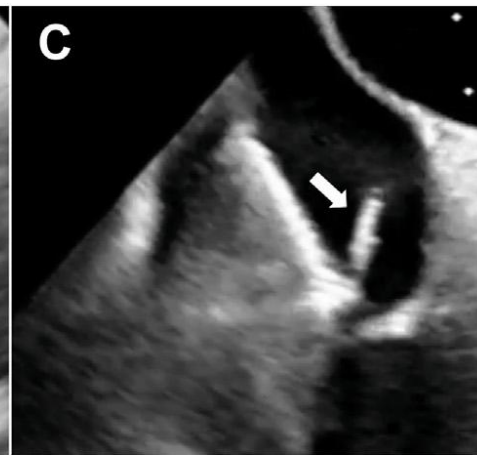
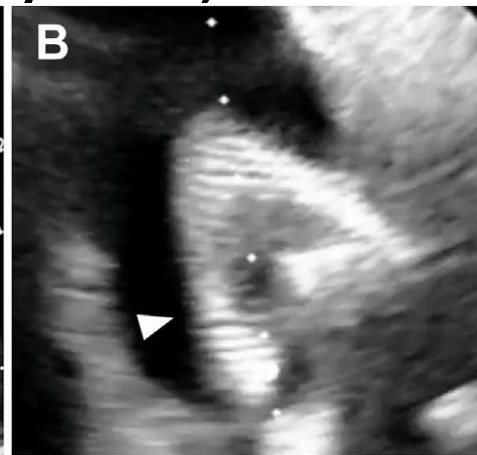
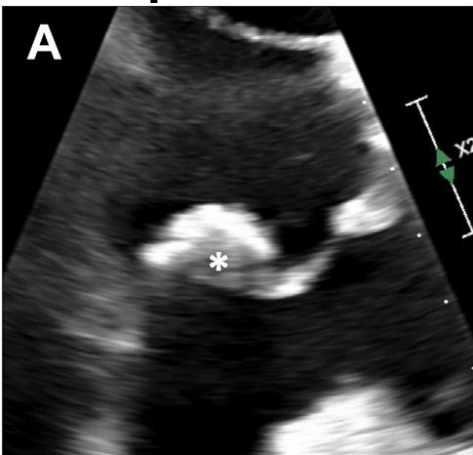
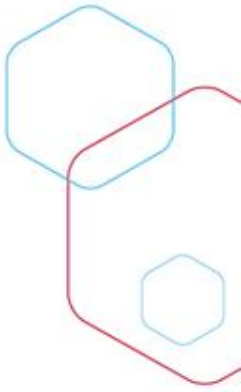
Perforace septa dlouhým  
tunelem a podélné  
rozříznutí sepa „flying V“

Jaffar M. Khan. Circulation: Cardiovascular Interventions.  
Transcatheter Myotomy to Relieve Left Ventricular Outflow Tract  
Obstruction: The Septal Scoring Along the Midline Endocardium  
Procedure in Animals, Volume: 15, Issue: 6, Pages: e011686, DOI:  
(10.1161/CIRCINTERVENTIONS.121.011686)



# Seattle procedure

- Vytažení tumoru ze srdce (z pravostranných prostor myxom, fibroelastom z ao chlopně)



# Závěr

- Electrosurgery zahrnuje neuzavřené množství intervencí pomocí radiofrekvenčního řezání
- Necertifikovaný postup s relativně neznámým počtem a typem komplikací
- Stejně jako dříve mimotělní oběh, koronární angioplastika, TAVI.....

# Děkuji za pozornost

