



INTERNÍ
KARDIOLOGICKÁ
KLINIKA FN BRNO a LF MU

Okludér s vlastním názorem

Opakovaná trombóza a možnosti řešení

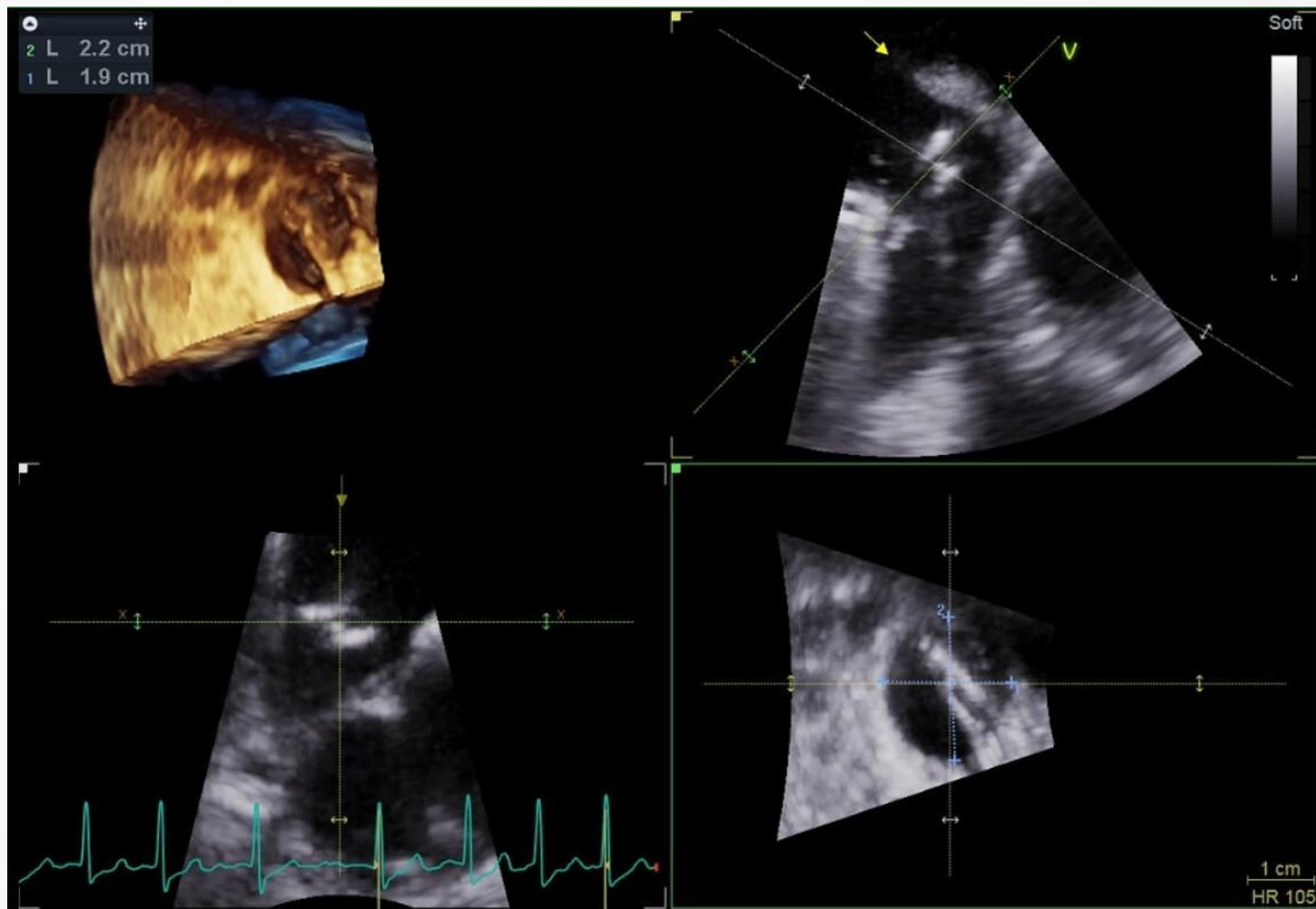
Jan Kaňovský



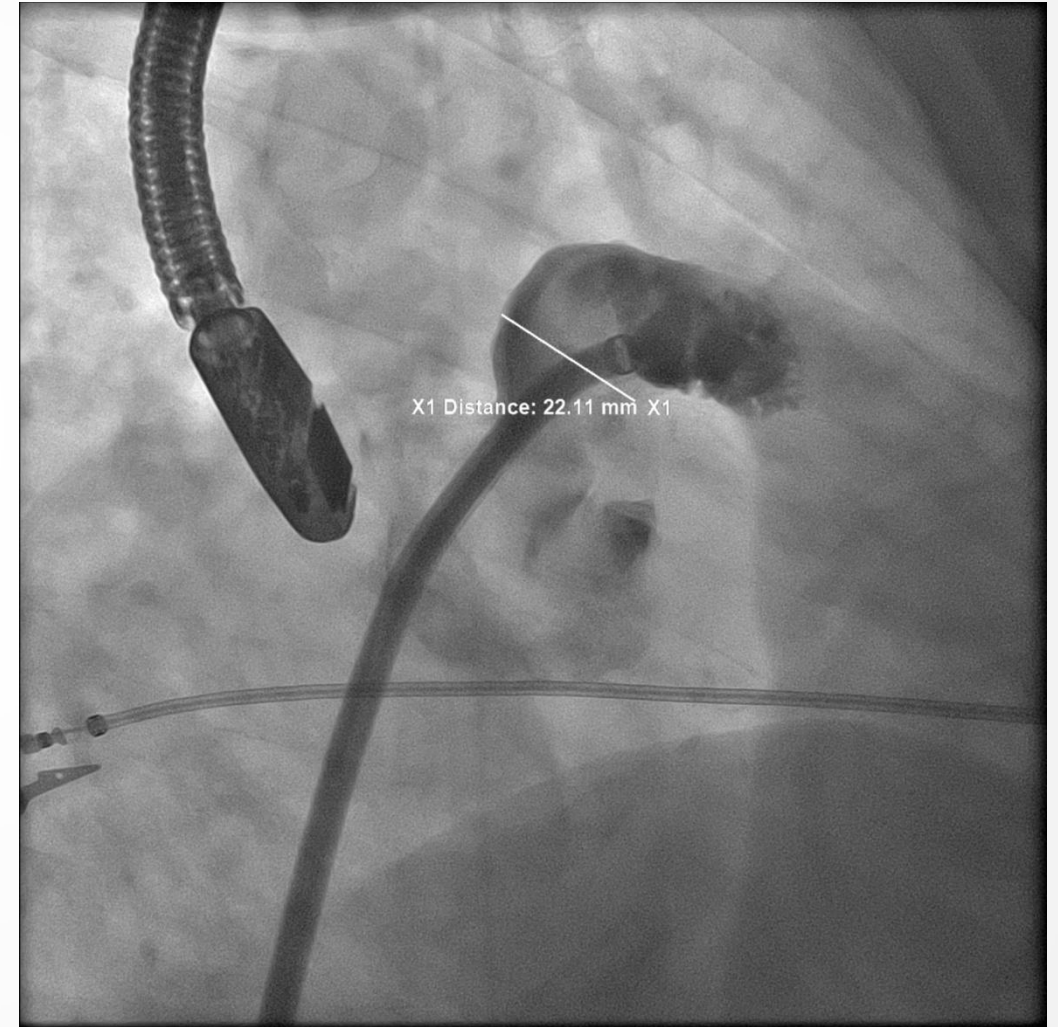
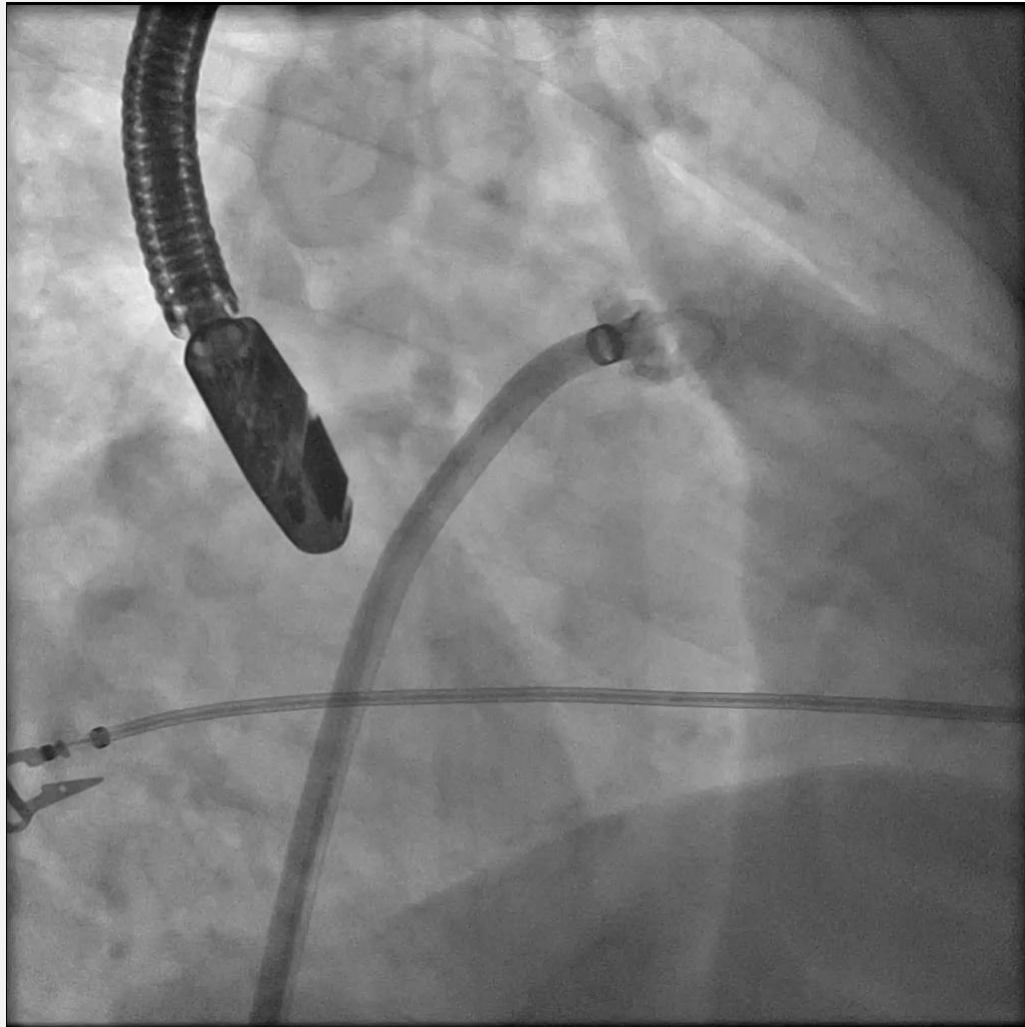
Kazuistika

- Žena, *1940, 106kg/160cm
- Perzistentní fibrilace síní, EF LK 55%, HFpEF, anam. PE, RI (**kreat 210, bez CT**)
- CHA2DS2-VA 5b, HAS-BLED 4b
- Opakované krvácení do GIT s anemizací při NOAC
 - GFS četné angiektázie, opak. endoskop. ošetřování
 - objemná skluzná hiátová hernie
 - divertikuloza sigmatu a colon descendens
- **1/2025** Přijata k **uzávěru LAA**, NOAC vysazen, ASA + clopidogrel p.o. periprocedurálně

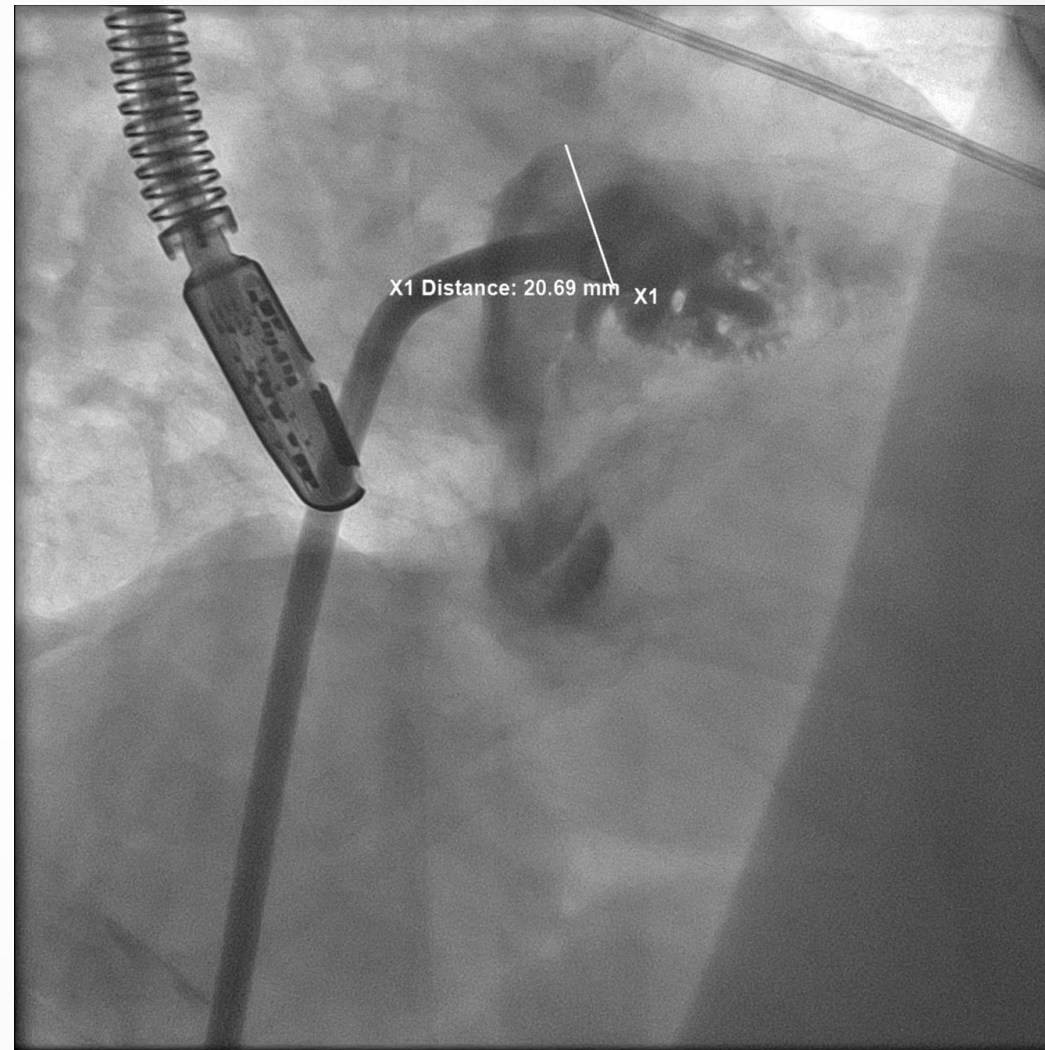
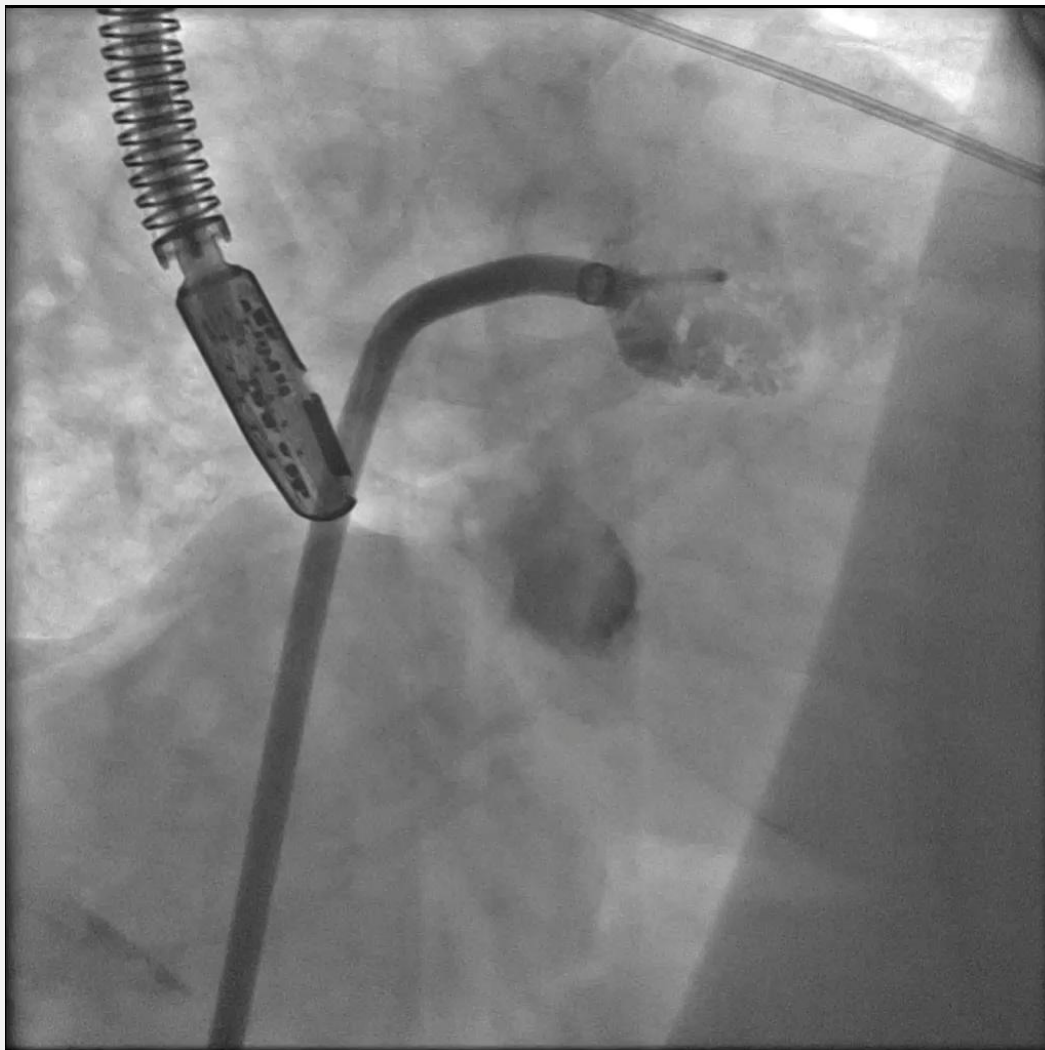
ECHO TEE analýza LAA



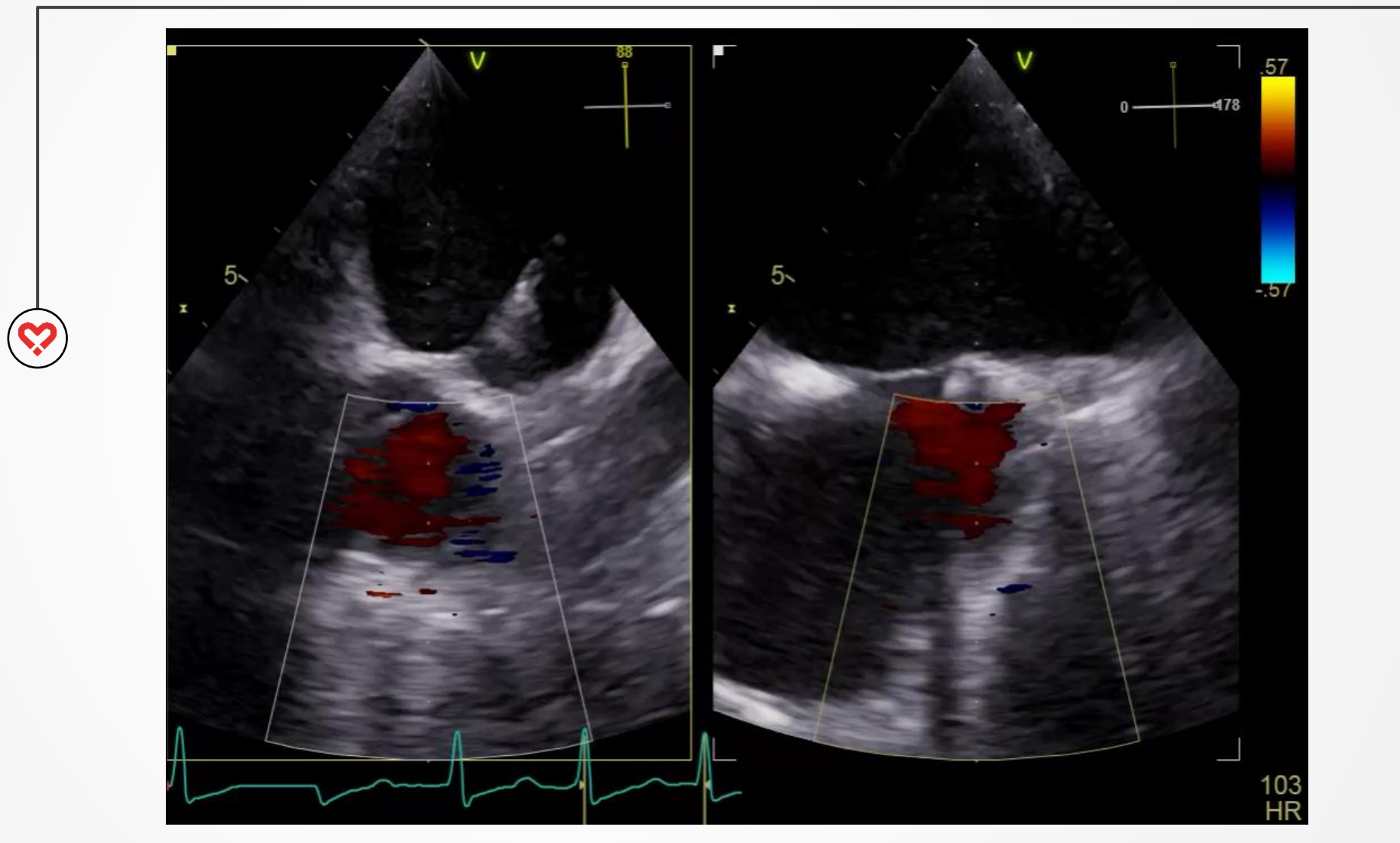
Angio analýza LAA Cranial



Angio analýza LAA Caudal



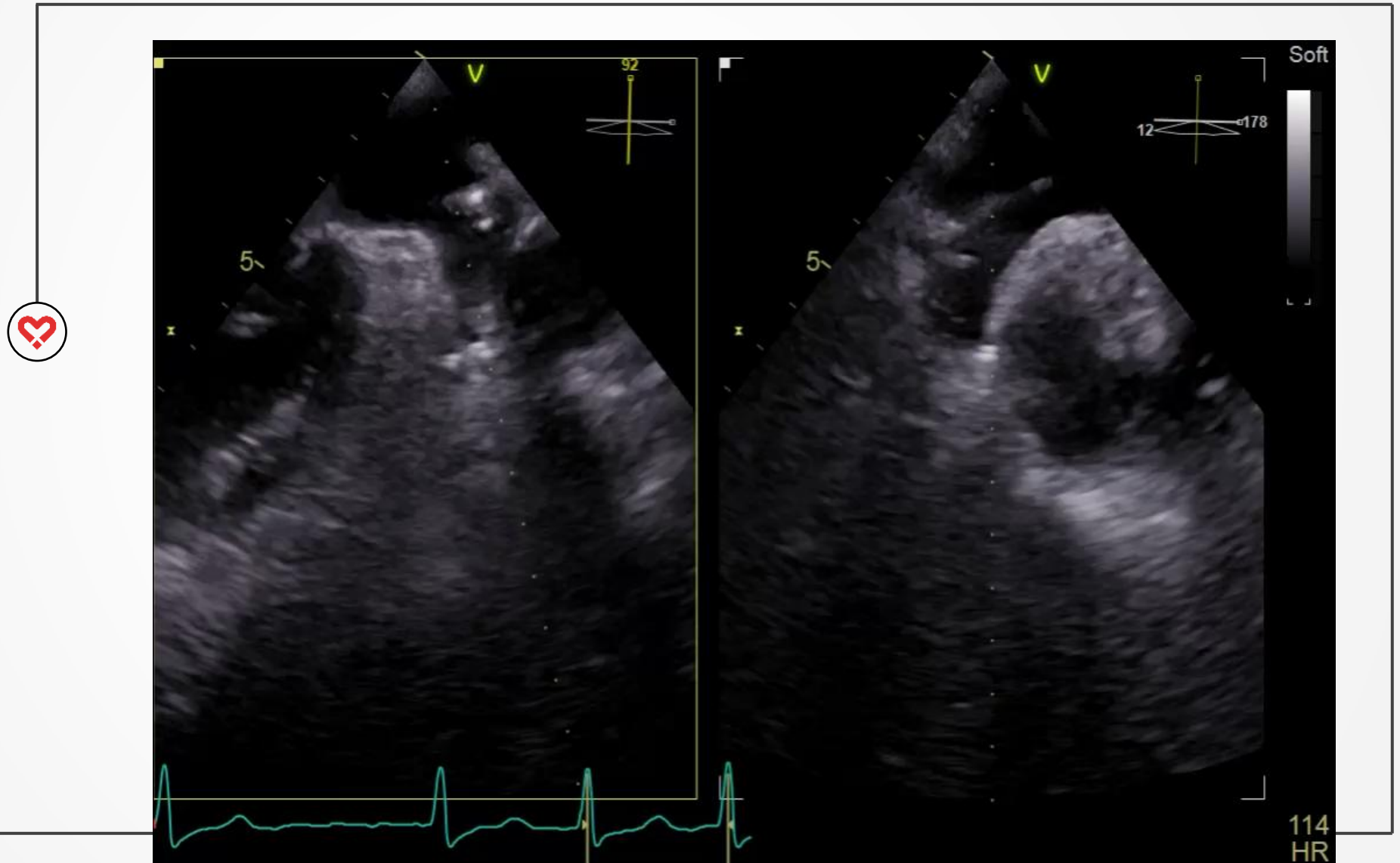
Uzávěr pod kontrolou RTG a TEE



Punkce IAS
Heparin 8000j



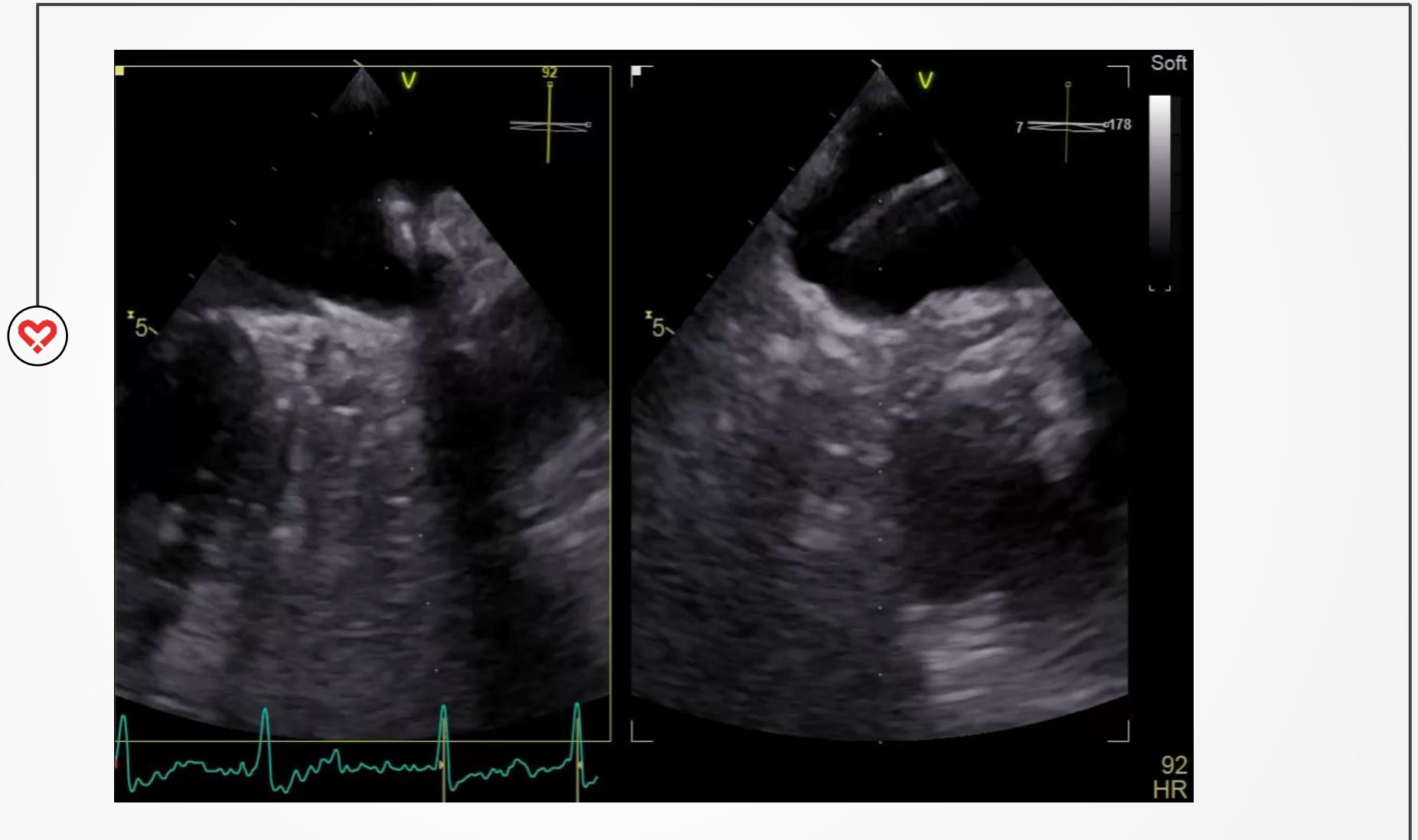
Uzávěr pod kontrolou RTG a TEE



Poloha sheathu



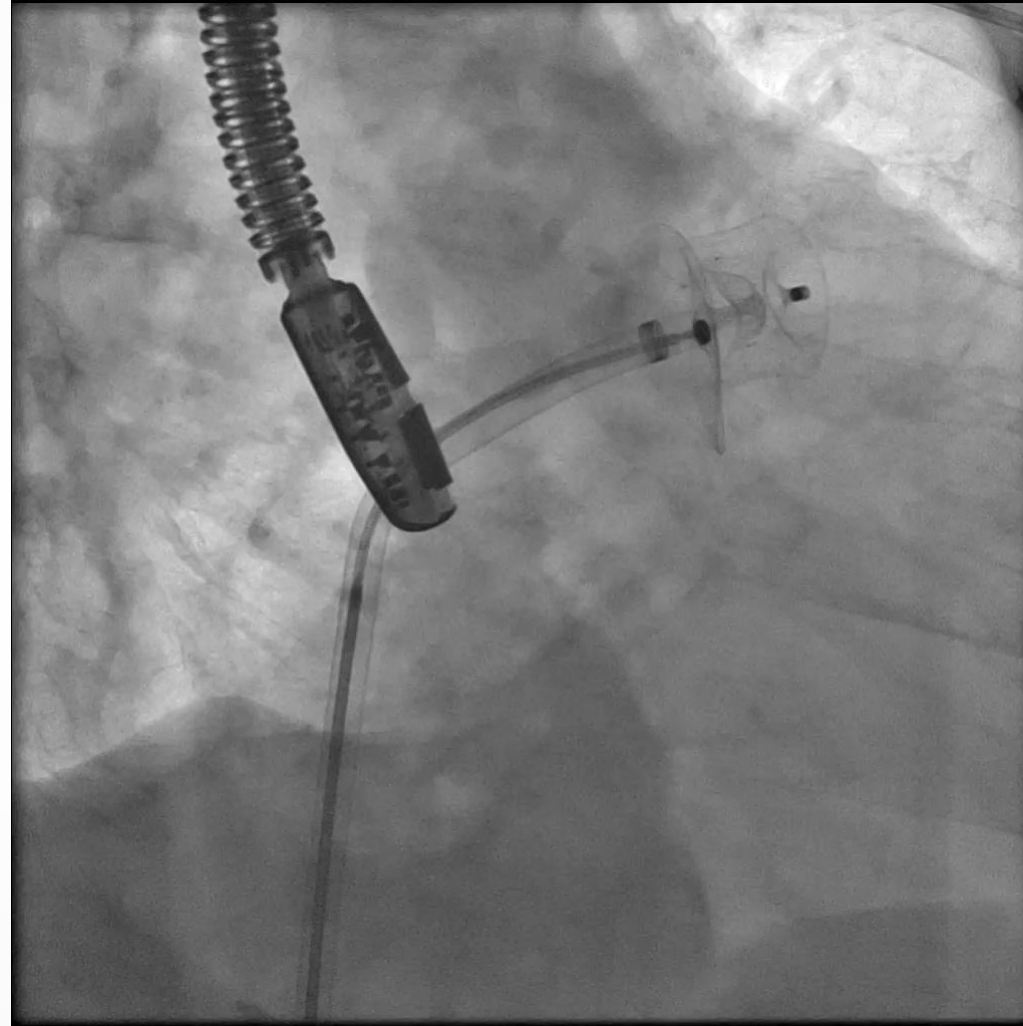
Uzávěr pod kontrolou RTG a TEE



První umístění
-neoptimální



Uzávěr pod kontrolou RTG a TEE

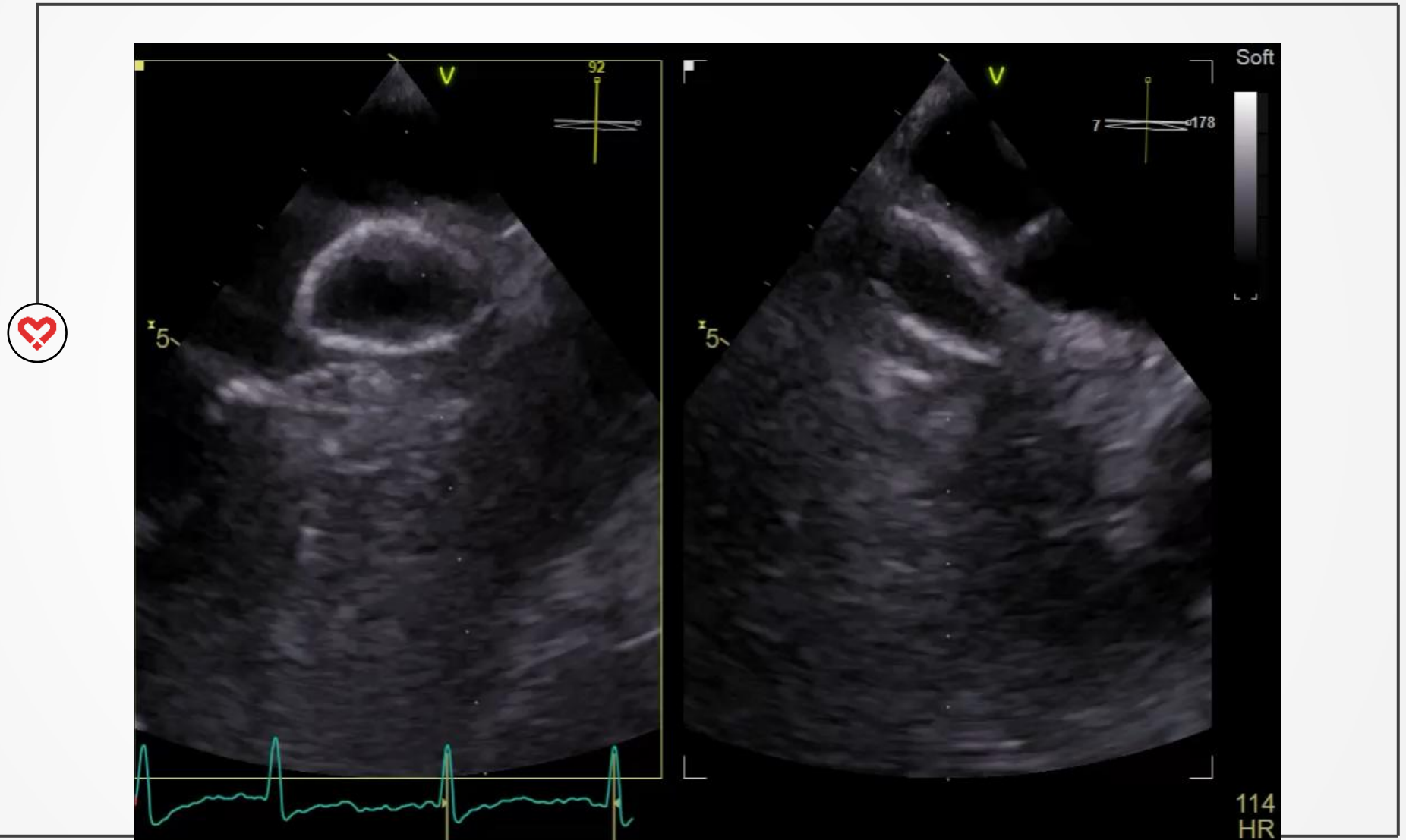


Finální umístění

- **angio dobrá komprese a tvar**



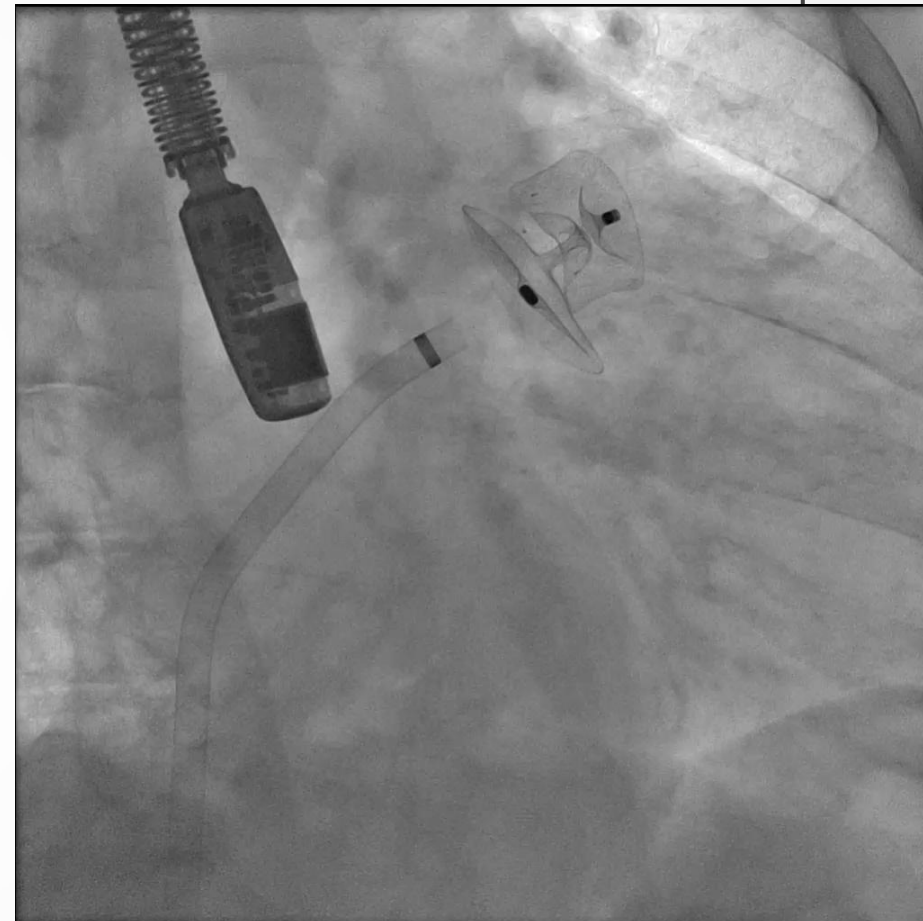
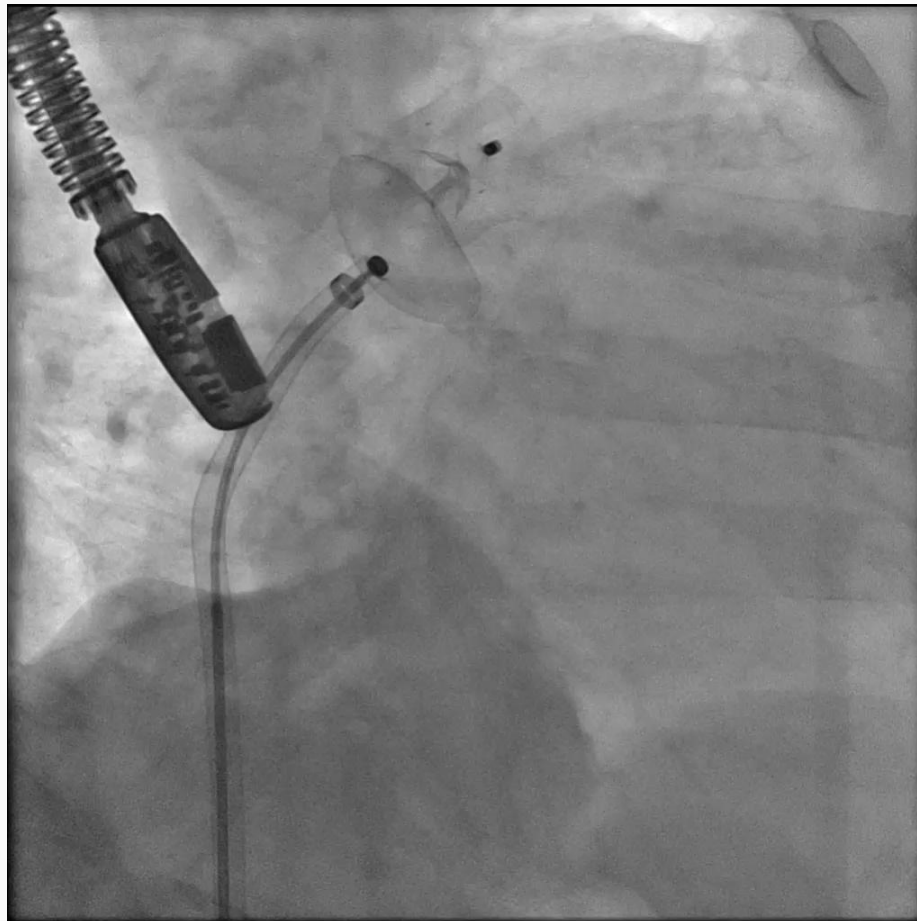
Uzávěr pod kontrolou RTG a TEE



Finální umístění
-suboptimální



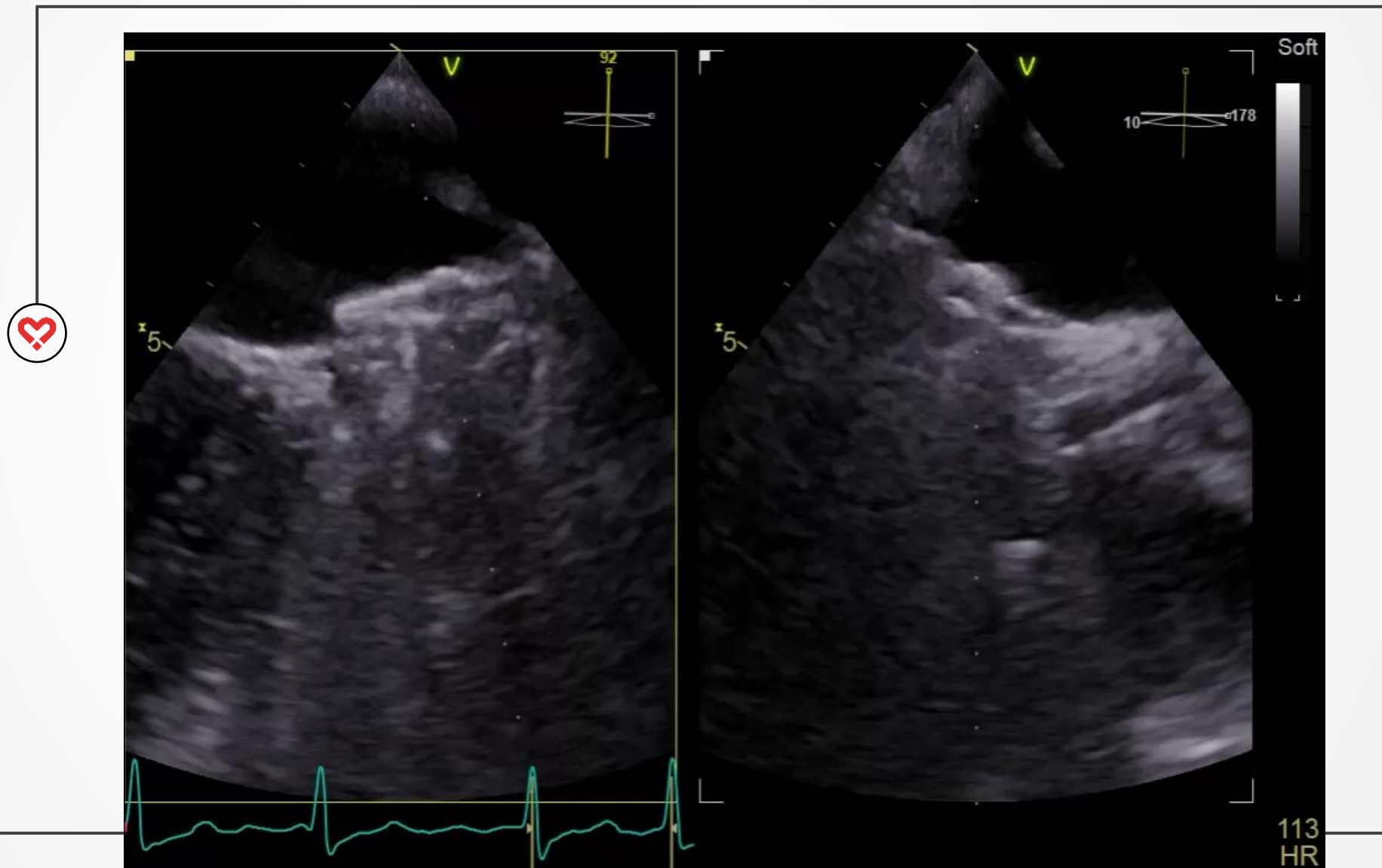
Výsledné umístění



Tug test
Odpoutání



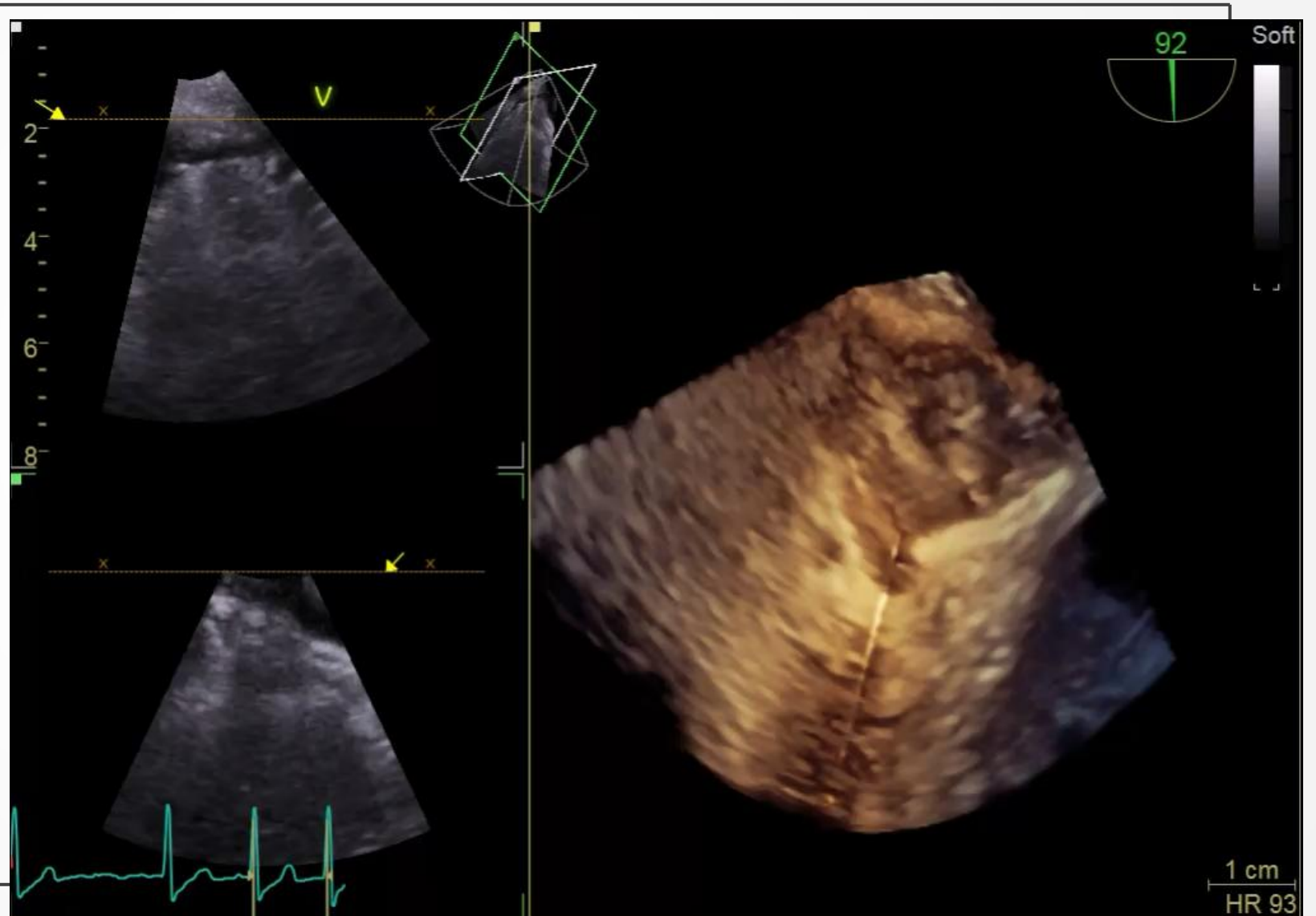
Výsledné umístění



Výsledné umístění

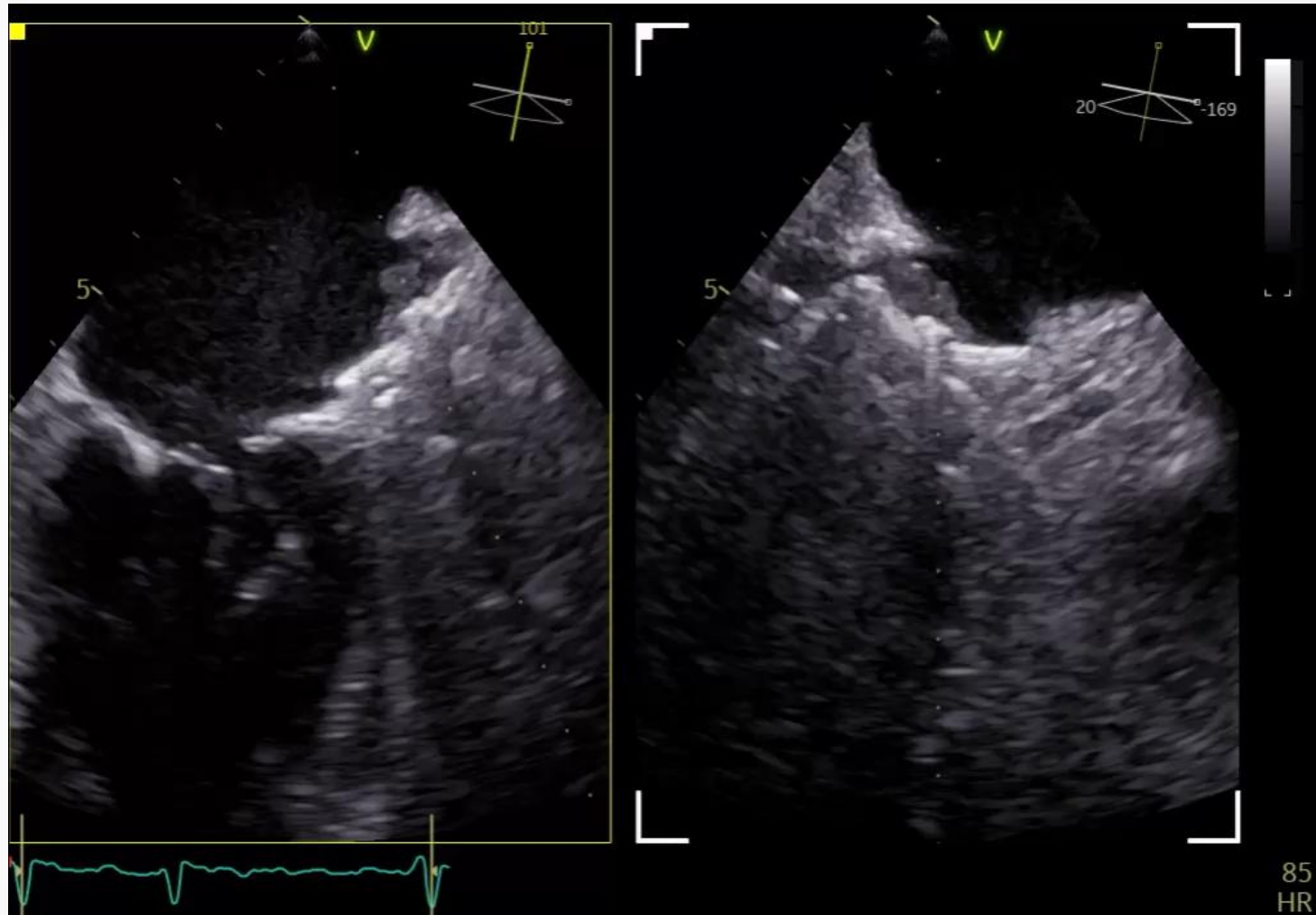


- Následující den kontrolní TTE
- Dimise
- ASA + clopidogrel
- 2-2026 TTE bpn



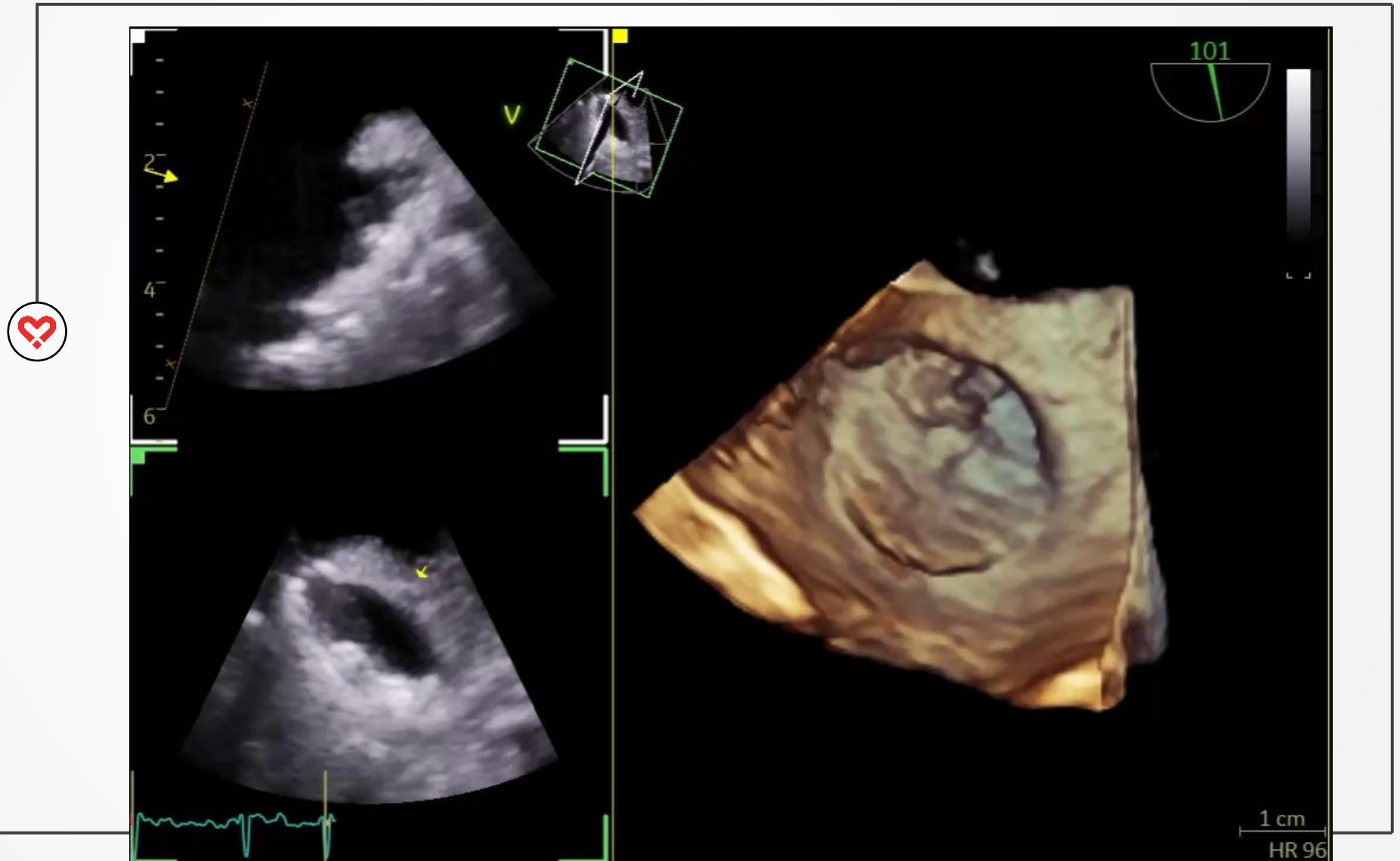
Follow-up 6M

- 6-2025 TEE
- Trombus na okludéru 13x9mm
- DAPT
- **LMWH**
10tisIU/24h



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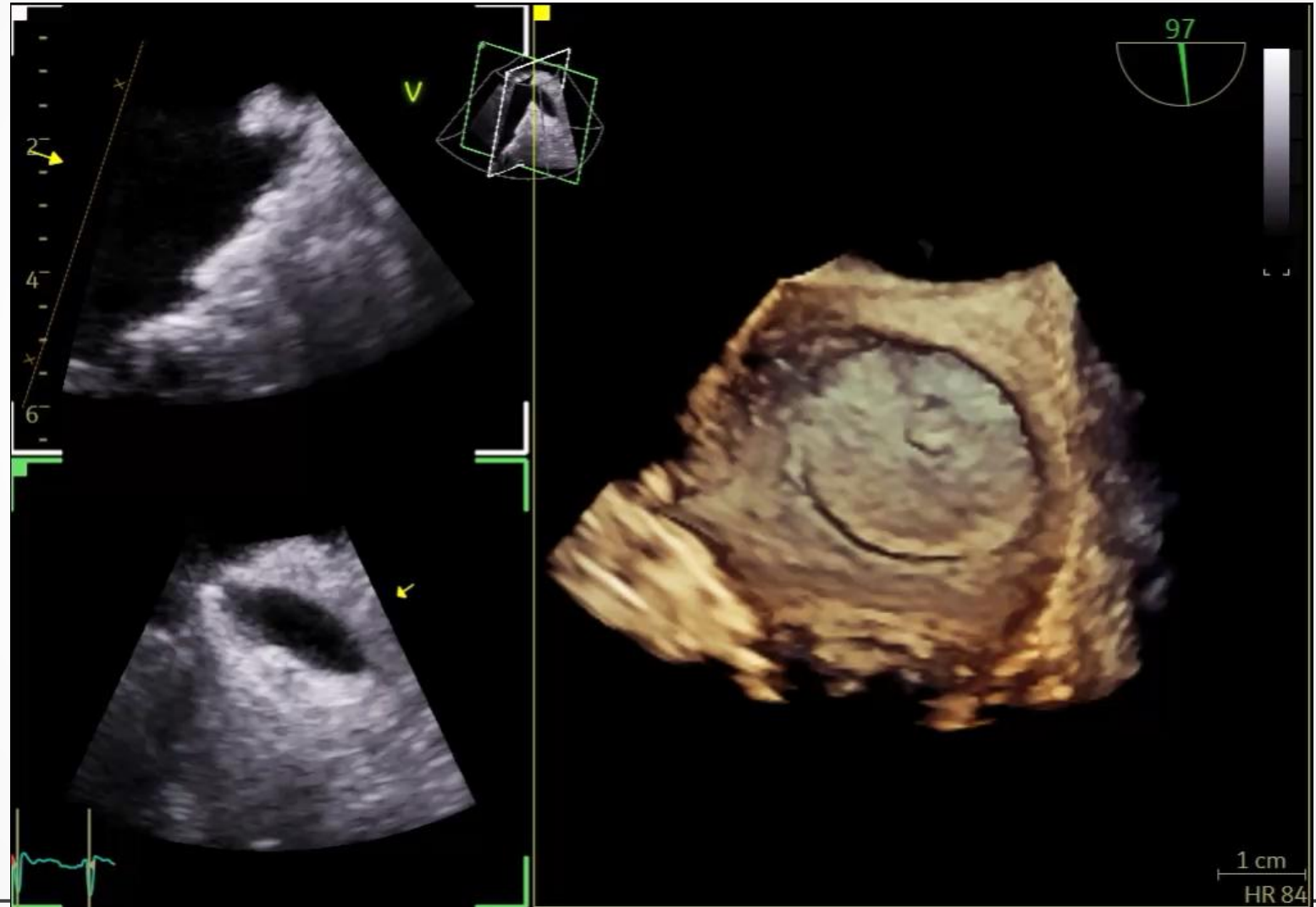
Follow-up 9M

- 9-2025 TEE
- Bez trombu
- DAPT
- LMWH
10tisIU/24h ex



Follow-up 9M

- 9-2025 TEE
- Bez trombu
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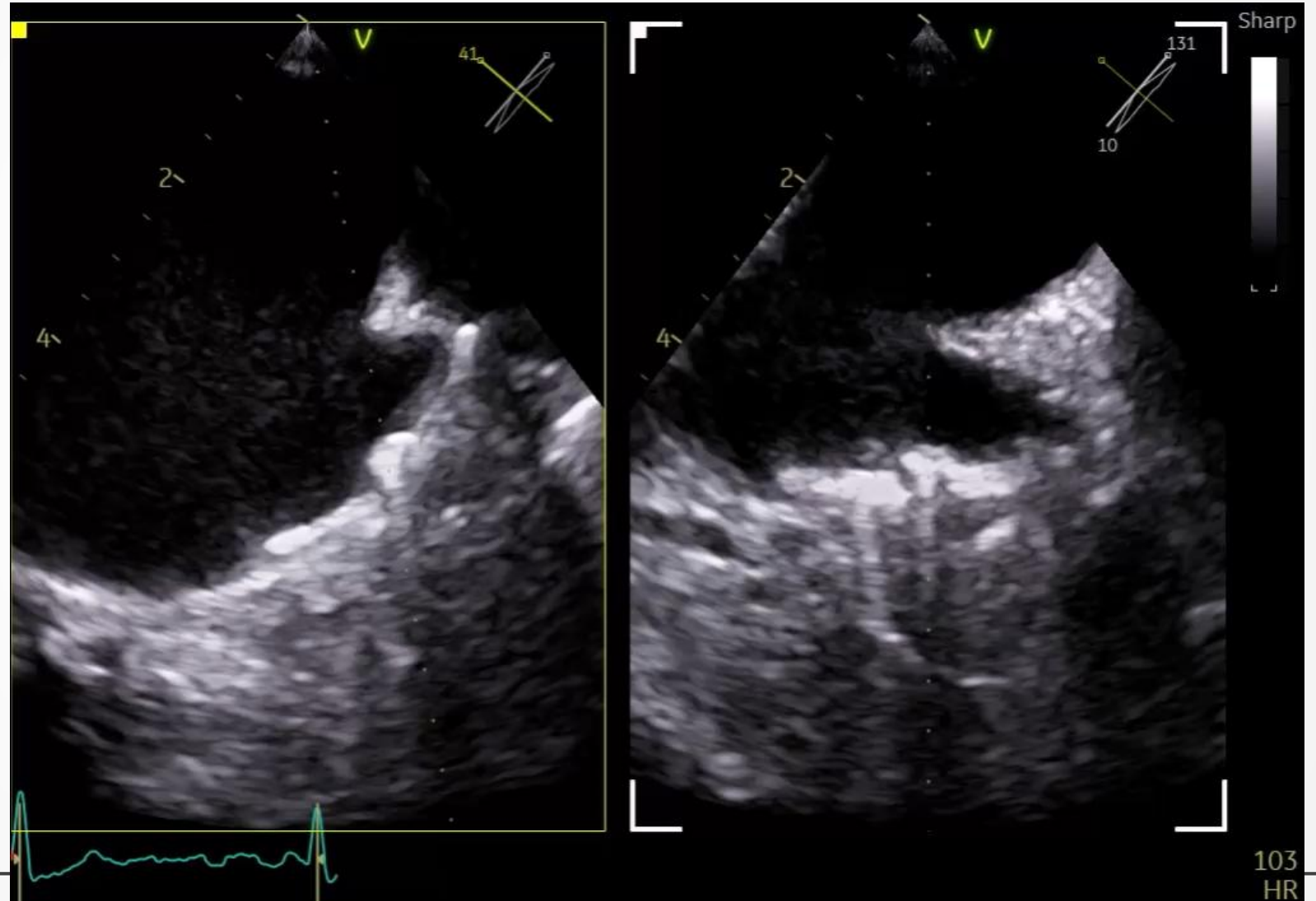
Follow-up 12M

- 12-2025 TEE
- Malý plošný trombus
- DAPT
- **LMWH**
10tisIU/24h



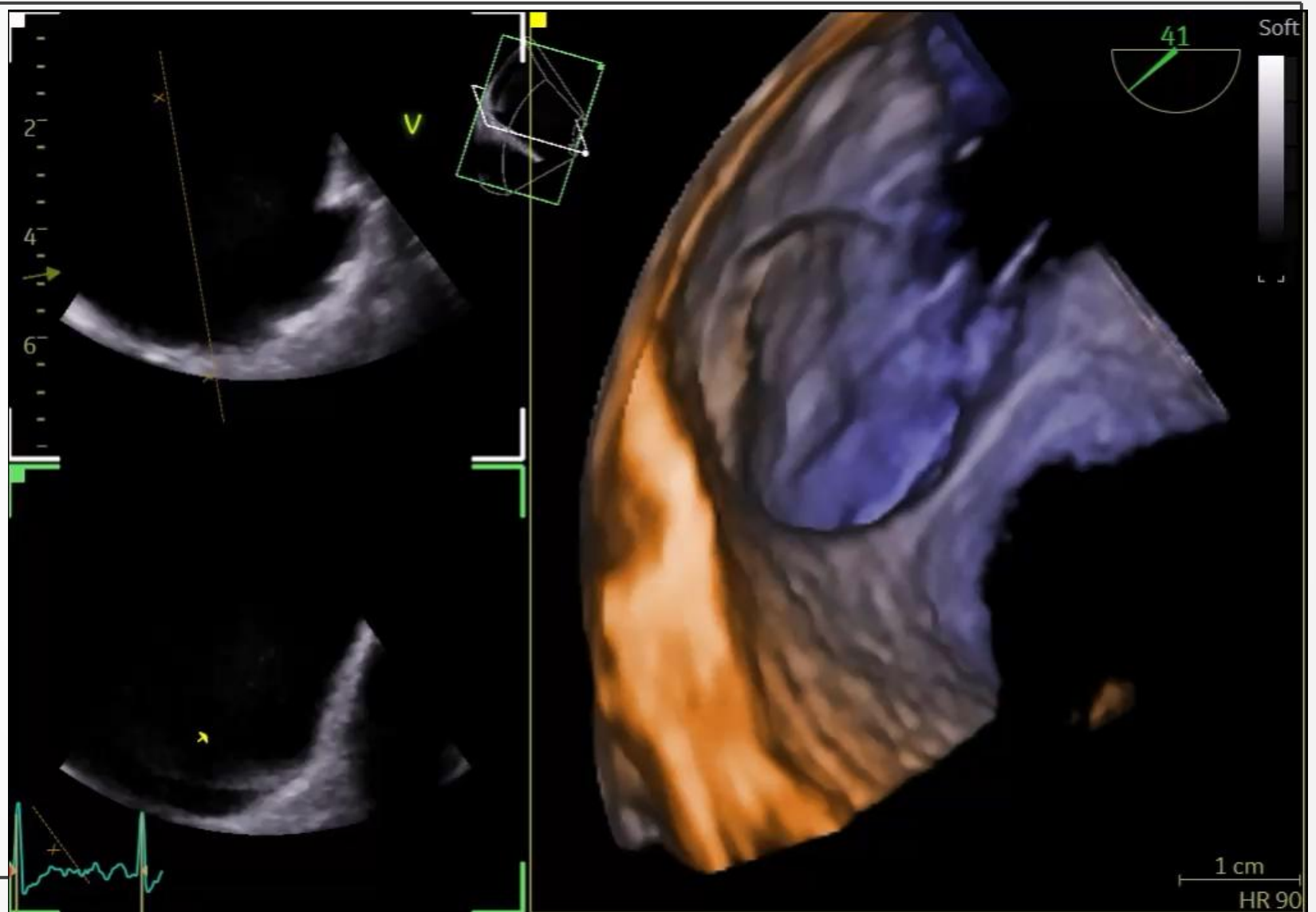
Follow-up 14m

- 2-2026 TEE
- Trombus vymizel
- Smoke
- ASA
- Clopidogrel ex
- LMWH
10tisIU/24h ex
- NOAC apixaban
2,5mg BID
- KO á 3m



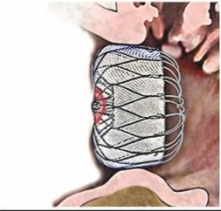
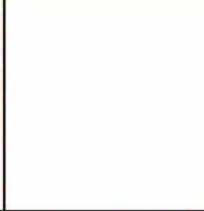

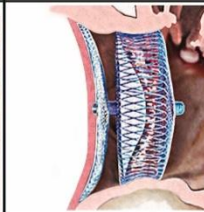
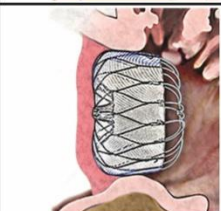
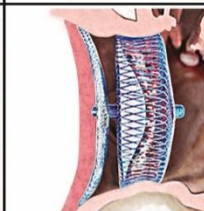
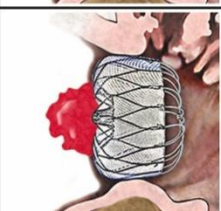
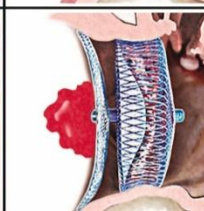
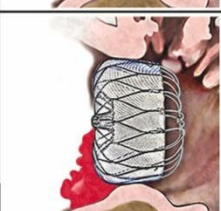
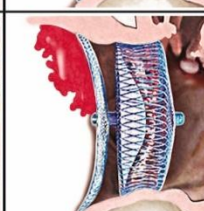
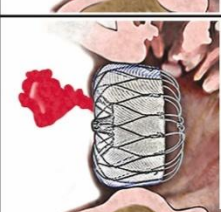
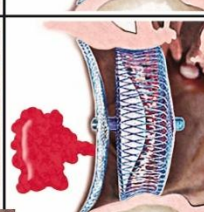
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Hypoattenuated thickening (HAT)		Watchman FLX	Amulet
Grade 0	Subfabric		
Grade 1	Sessile ≤ 3 mm		
	<ul style="list-style-type: none">• Sessile ≥ 3 mm• LA wall continuity• Smooth surface		
Grade 2	<ul style="list-style-type: none">• Sessile > 3 mm• No LA wall continuity		
	<ul style="list-style-type: none">• Sessile > 3 mm• Irregular surface		
Grade 3	Pendunculated		

DRT

Alkhouli et al., 2023

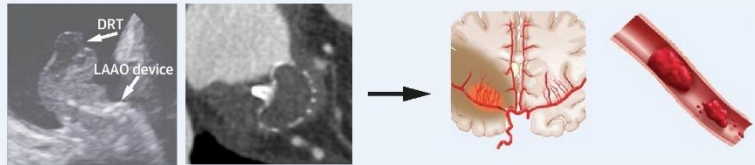


DRT

CENTRAL ILLUSTRATION: Overview of DRT Following LAAO

Device-Related Thrombus Following Left Atrial Appendage Occlusion

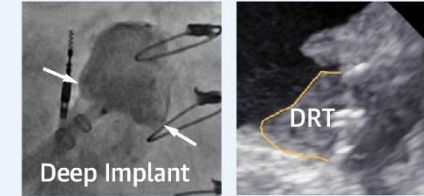
A Incidence and Clinical Impact



2%-4% within 1 year after LAAO 2- to 4-Fold ↑ Thromboembolism

B Independent Predictors of DRT

- Age
- Female
- Permanent AF
- LV Dysfunction
- CHA₂DS₂-VASc
- Coagulopathy
- Renal Disease



C Novel DRT Classification



No DRT

Low likelihood of DRT

High likelihood of DRT

D Prevention and Treatment of DRT

Before LAAO

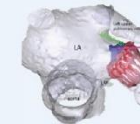


Surgical clipping for high-risk patients

After DRT



Long-term anticoagulation



Frequent surveillance

Alkhouli M, et al. J Am Coll Cardiol Intv. 2023;16(22):2695-2707.

Možnosti řešení - diskuze



- Pre/periprocedurálně:
 - Jiný úhel implantace, více povrchově, snaha o překrytí ridge
 - Možnost změny strategie (chirurgie, jiný okludér)
 - NOAC po implantaci v malé dávce (ref. US praxe)
- Řešení po implantaci při DRT:
 - Dlouhodobá terapie NOAC v nižší dávce
 - Dlouhodobá terapie LMWH
 - Explantace a chir. uzávěr





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Děkuji

