



INTERNÍ
KARDIOLOGICKÁ
KLINIKA FN BRNO a LF MU

Komplikace PCI a jejich řešení

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XXXIV. Workshop ČAIK 2.-4.4.2025 , Praha



Přehled



1/ akutní uzávěr koronární tepny (disekce – spontánní/instrumentářiem),
trombóza, spasmus, embolizace – vzduch, detritus, trombus

2/ perforace – proximálně/distálně; Ellis klasifikace 1-4
- rizika – rotablace, CTO, cutting balon, věk, pohlaví, předchozí CABG)

3/ ztráta materiálu (embolizace stentu, vodiče, balonku aj.); longitudinální deformace stentu

4/ entrapment rotablační olivky

5/ komplikace v místě punkce

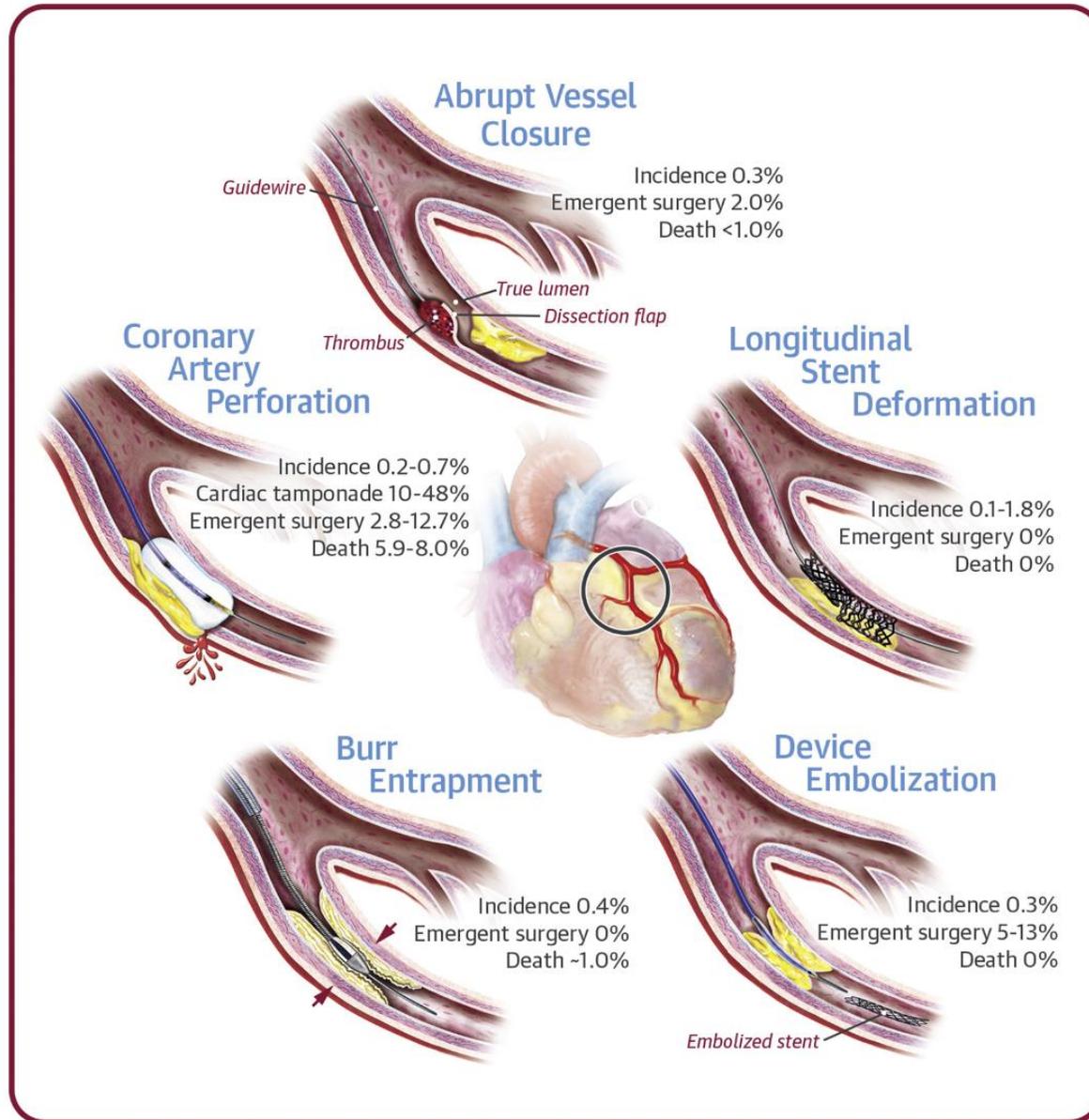
5/ kontrastem indukovaná nefropatie

7/ alergie na KL

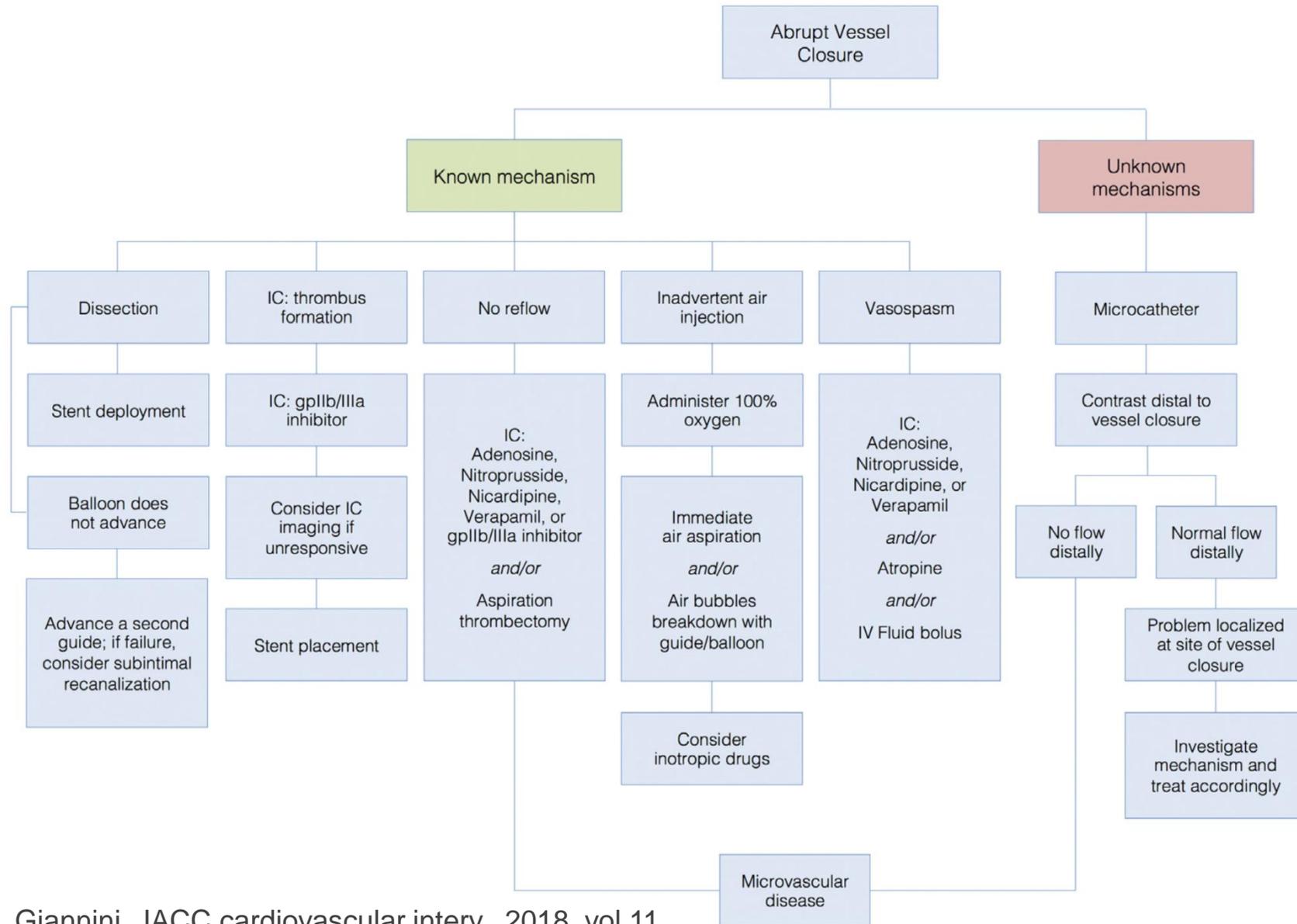
8/ radiační postižení



CENTRAL ILLUSTRATION Epidemiology of Mechanical Complications During Percutaneous Coronary Intervention



Uzávěr koronární tepny



AKS – perforace, coil

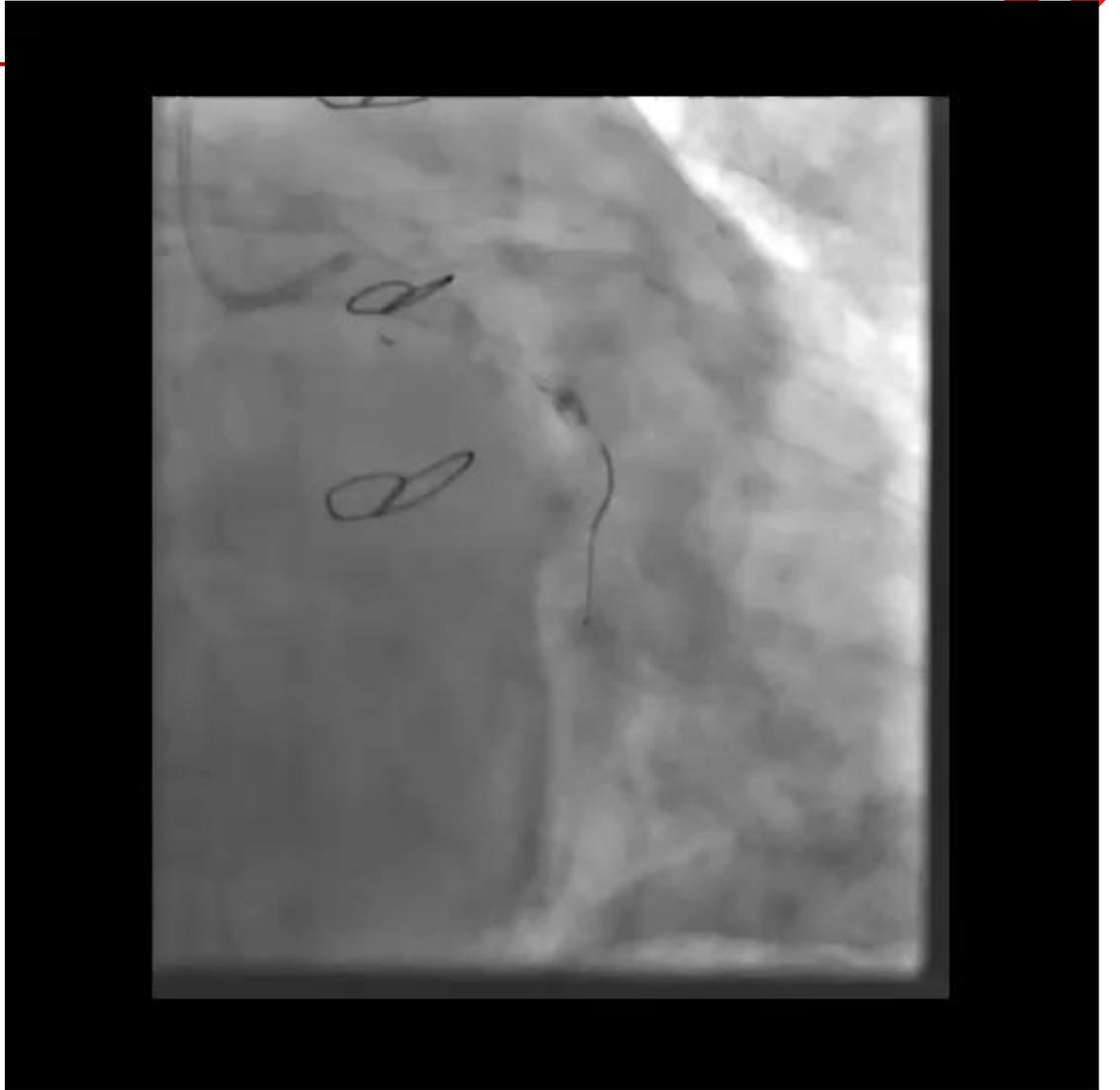
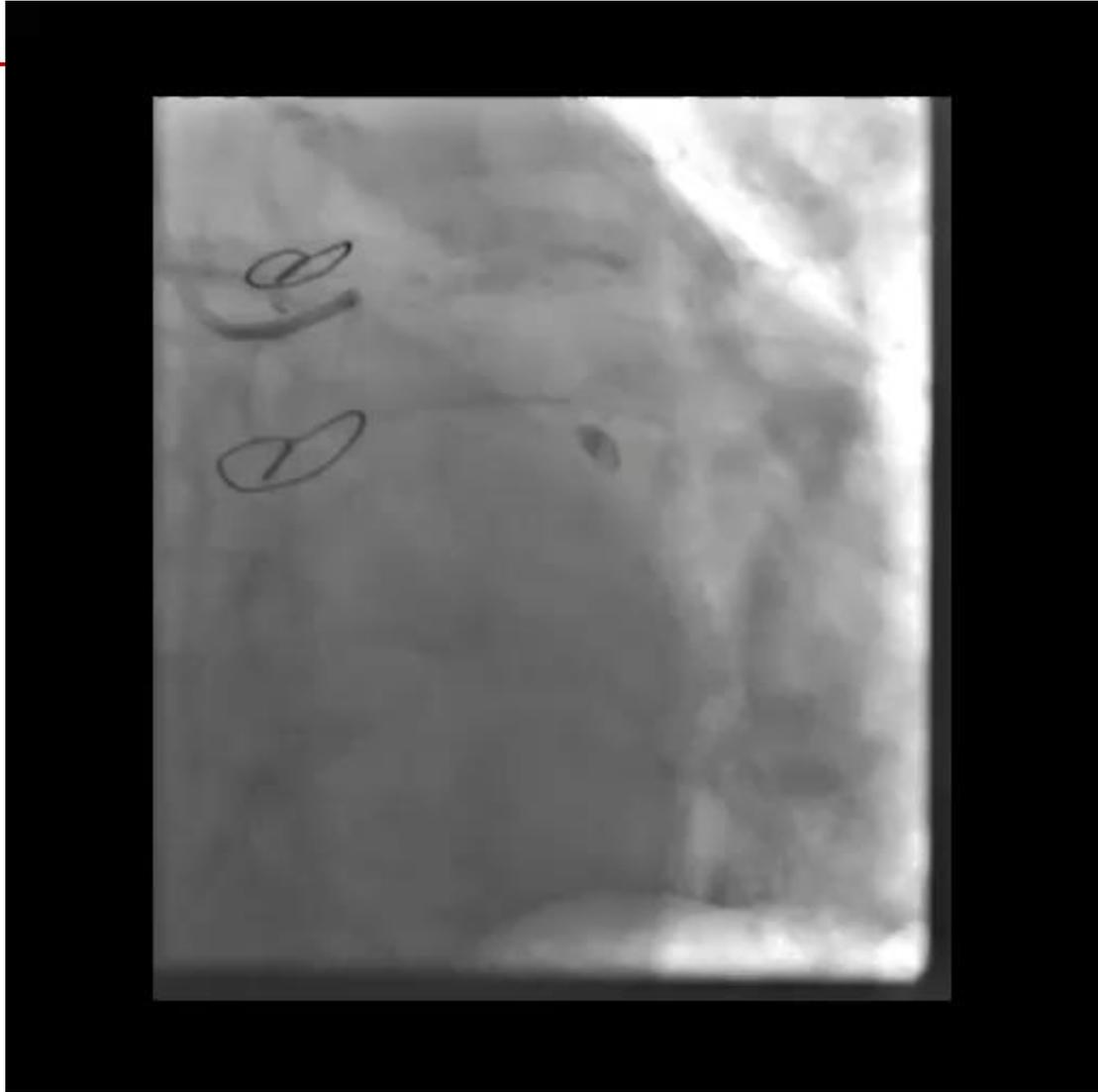


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- muž, 82 let
- 3x CABG 1990, stp PCI SVG RIA +2xDES, PCI RIA + DES za anastomosou, stp PCI RMS
- 10/2020 AKS – nSTEMI
- 11.10.2020 SKG – uz. RIA, průchodný SVG RIA/RD
 - - uz. ACD chron., uz. SVG-ACD
 - - akutní uz. RC, průchodný SVG-RMS, stenóza 80%
- Ad hoc PCI RC





AKS – perforace, coil



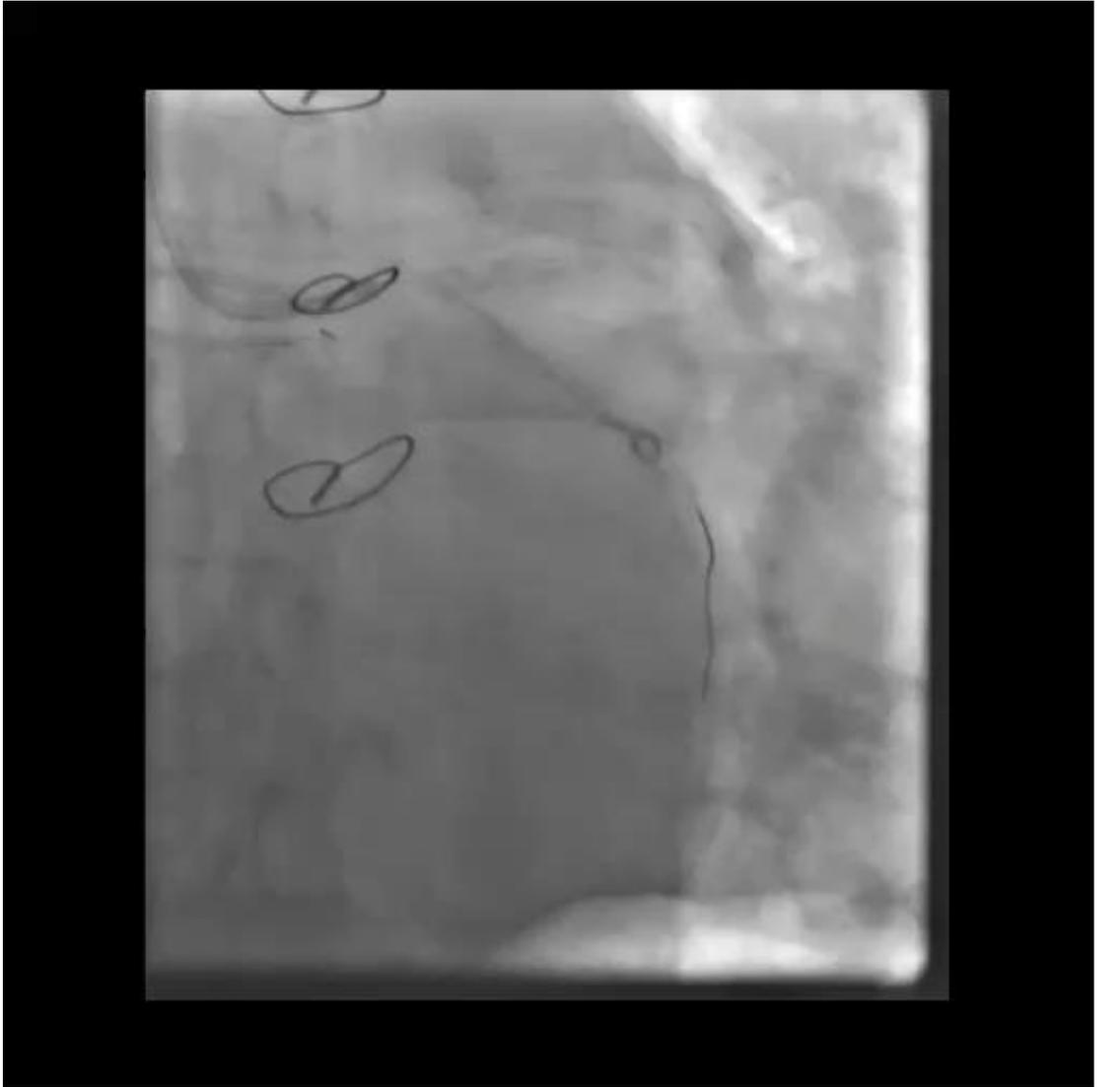
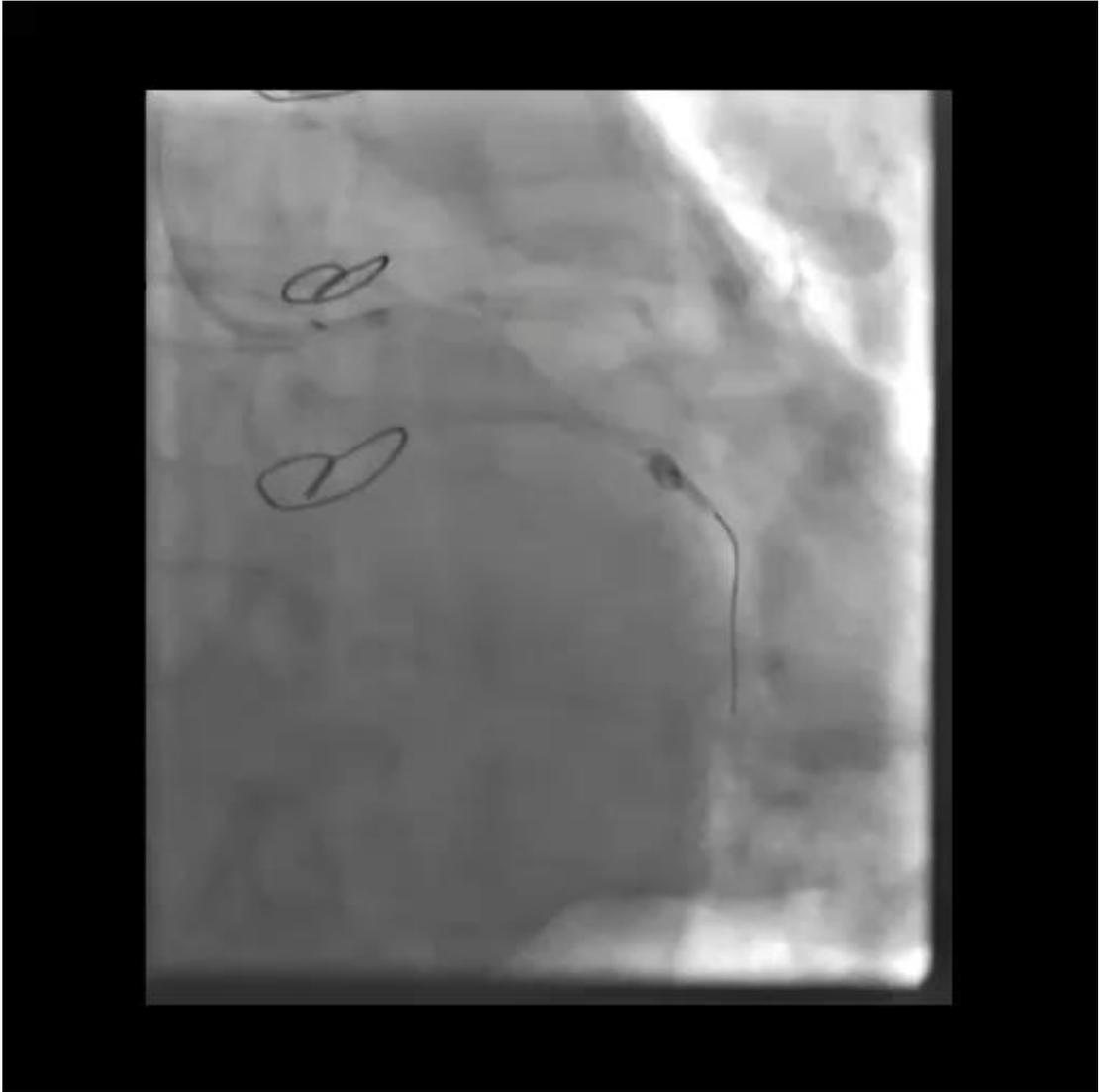
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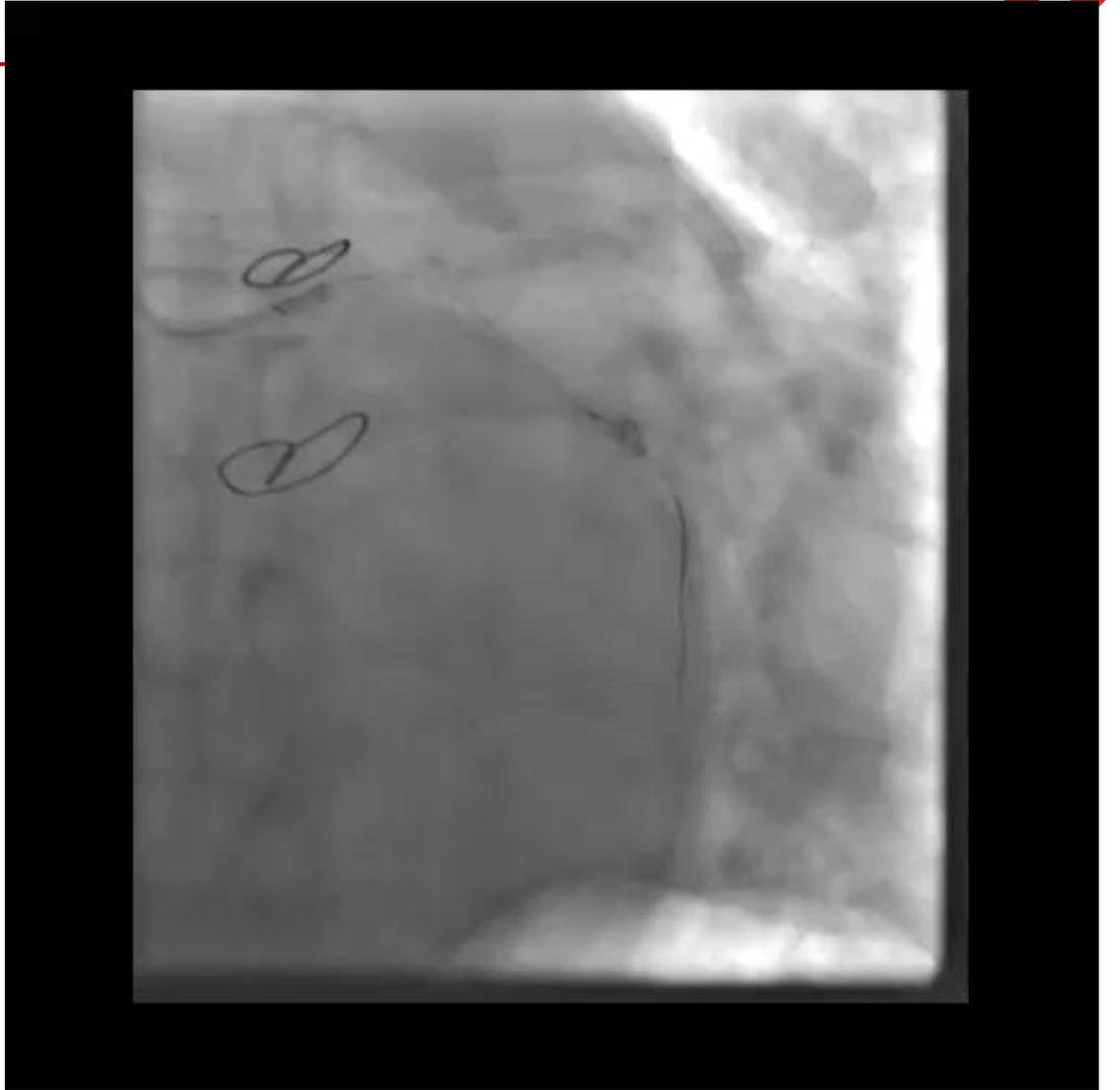


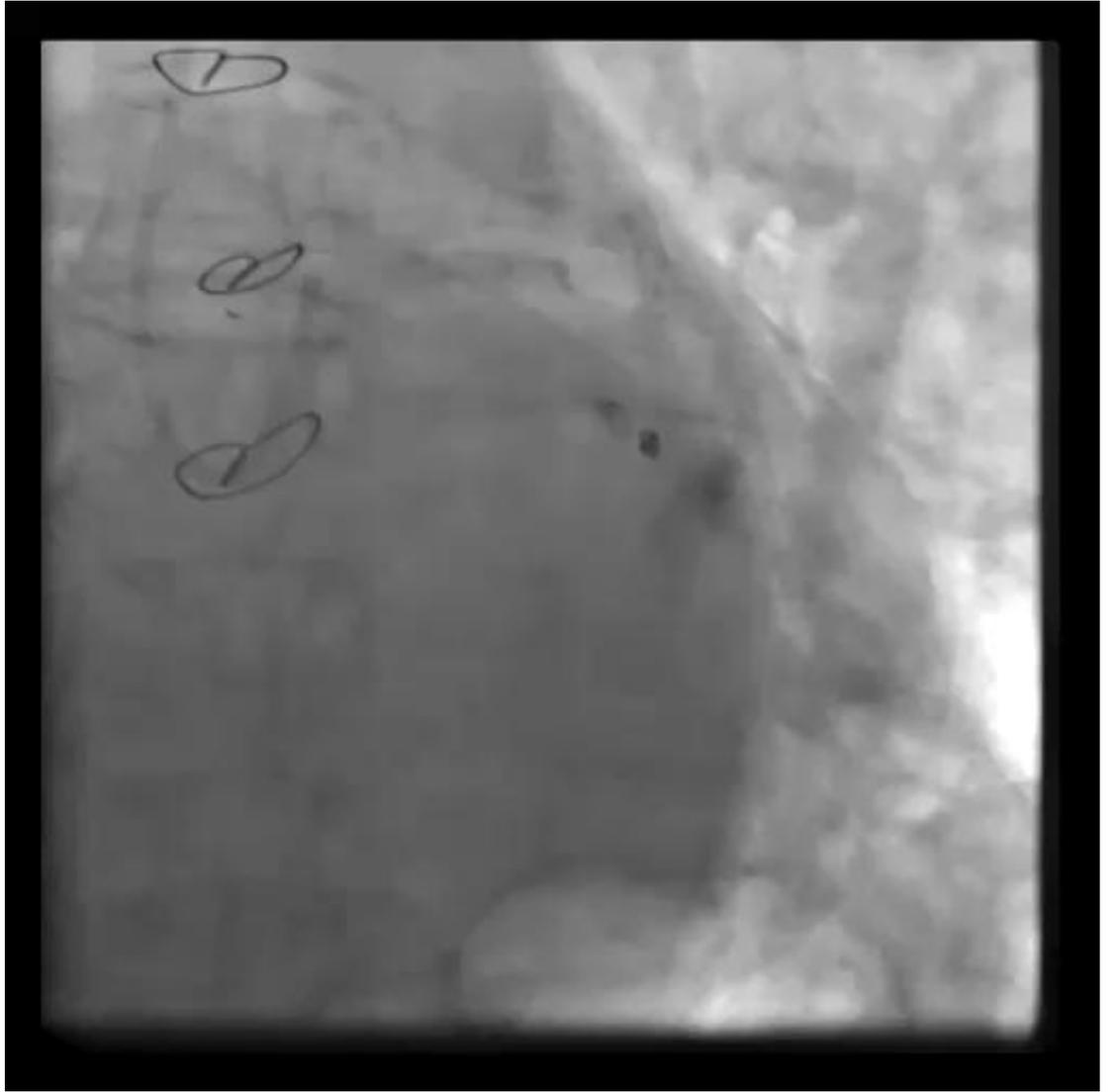
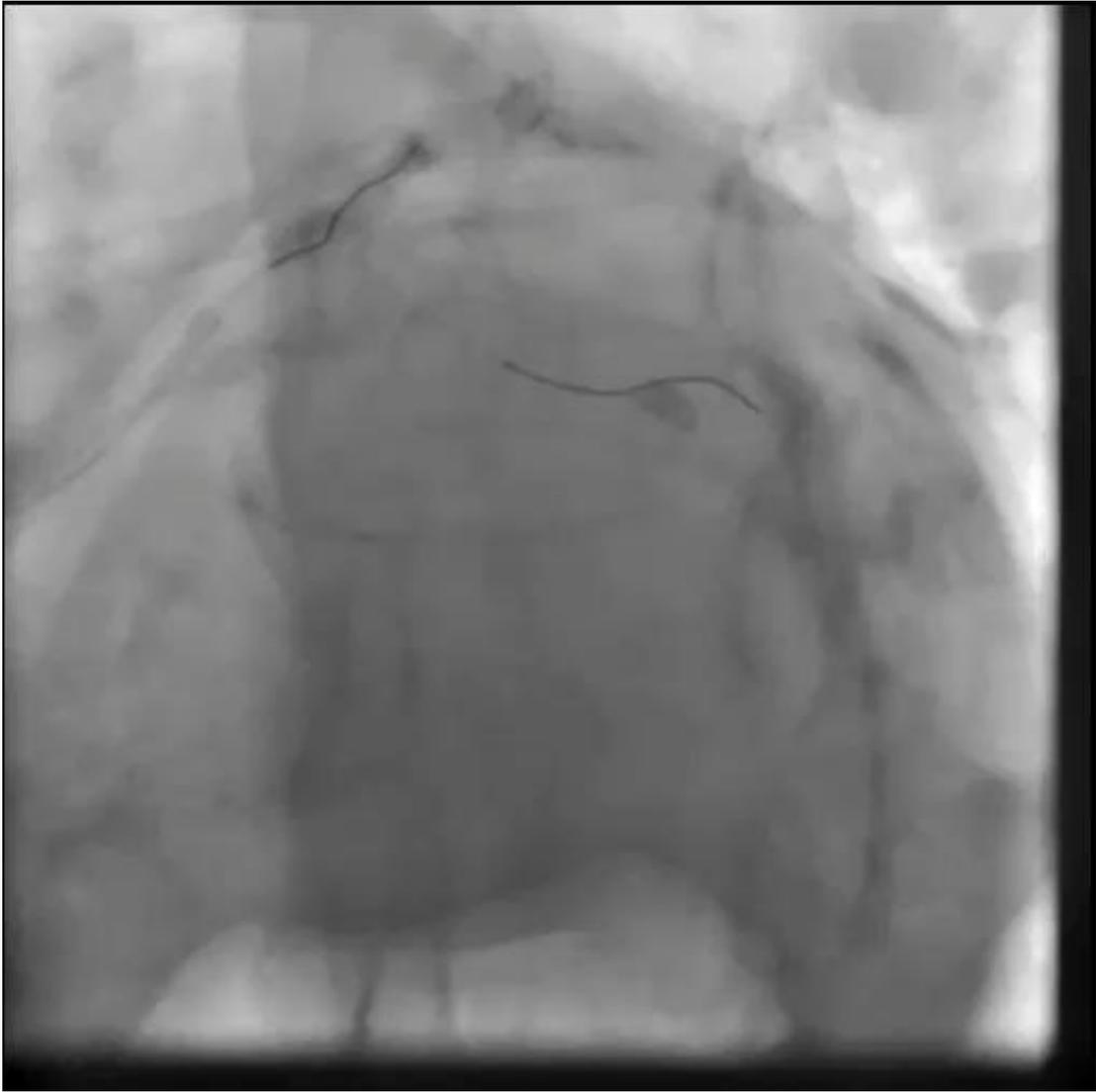
- PCI RC
- Sion blue přes uzávěr
- Dilatace 2,0x12 10 atm

- Perforace
- Dilatace RC 2,5x12
- Nelze zavést Papyrus
- Coil axium helix 3-6









Perforace ping-pong

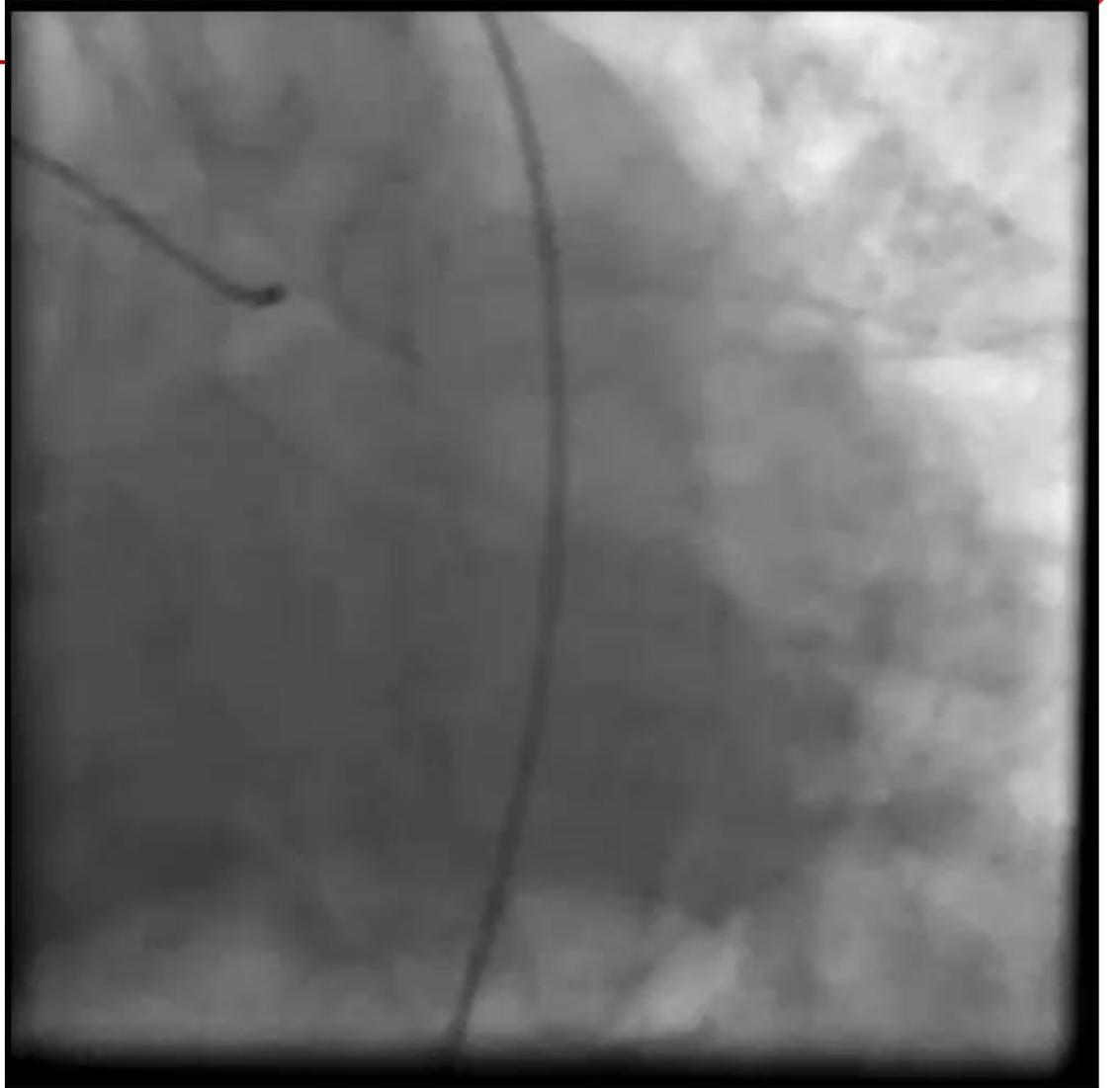
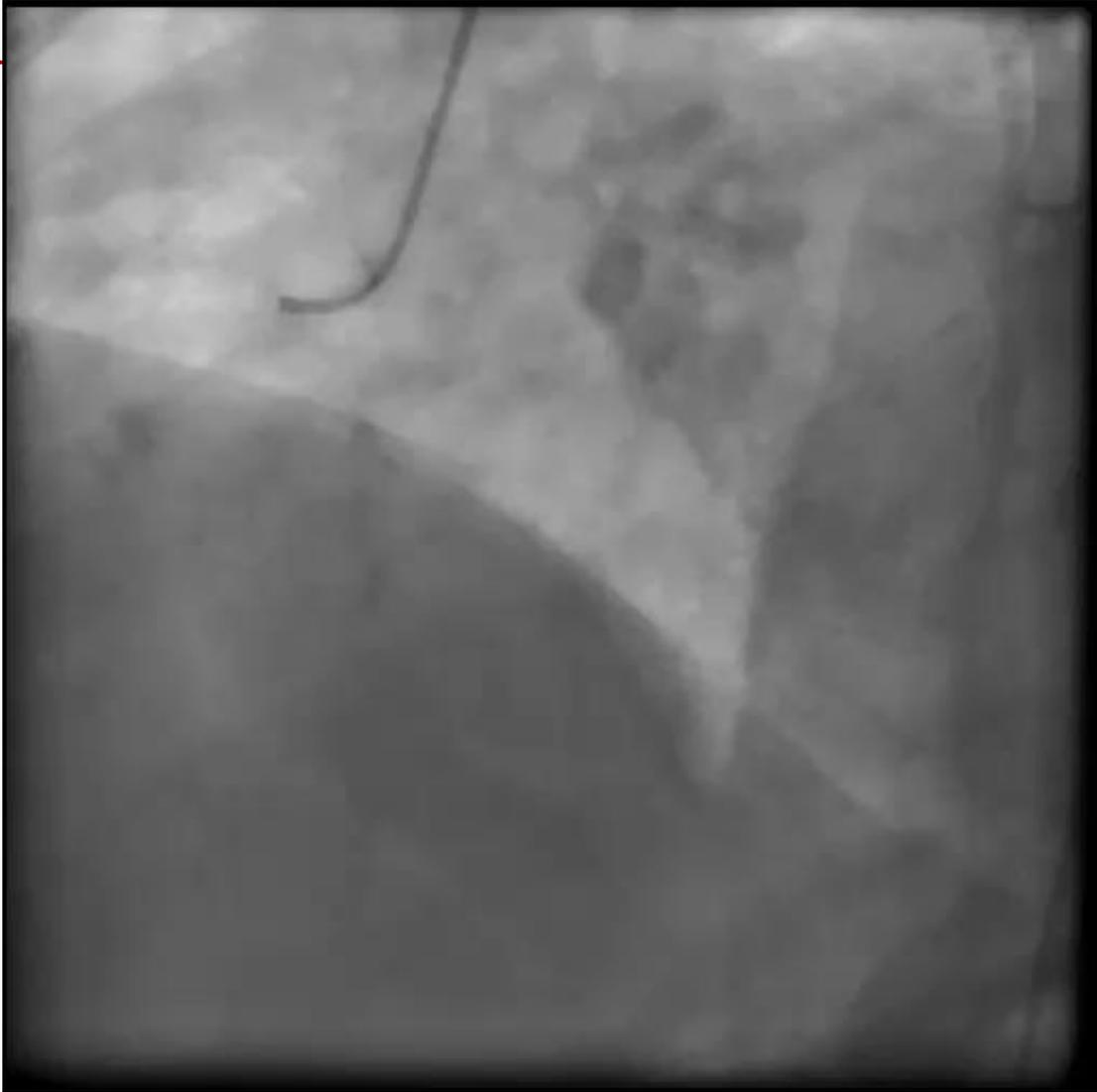


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- Muž 77 let
- nSTEMI PS, 3 dny nestabilní
- 80% RIA, CTO ACD, hraniční RC/RMS
- 8.8.2018 Ad hoc PCI RIA + 2x DES





Case 4 – ping-pong

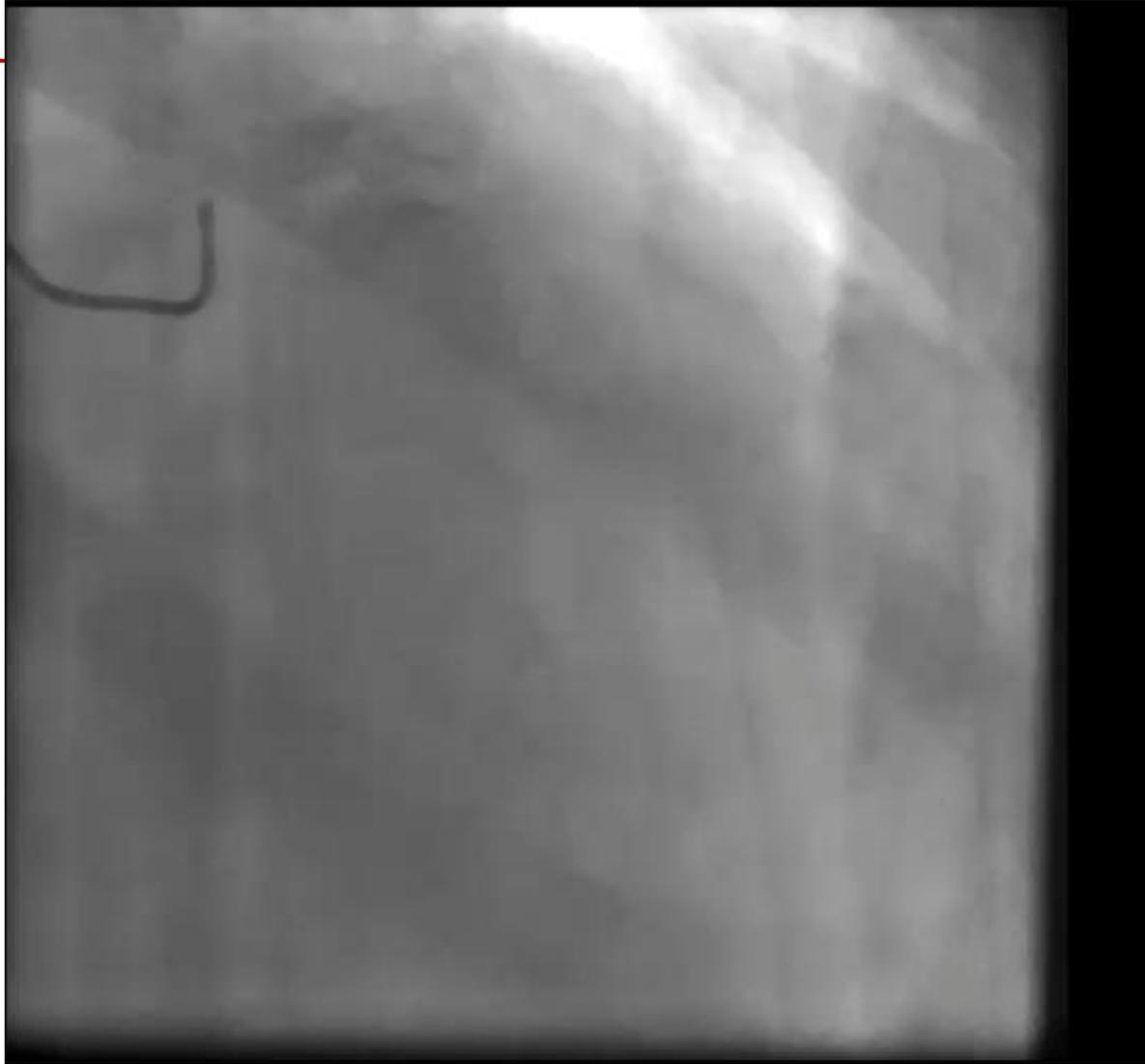


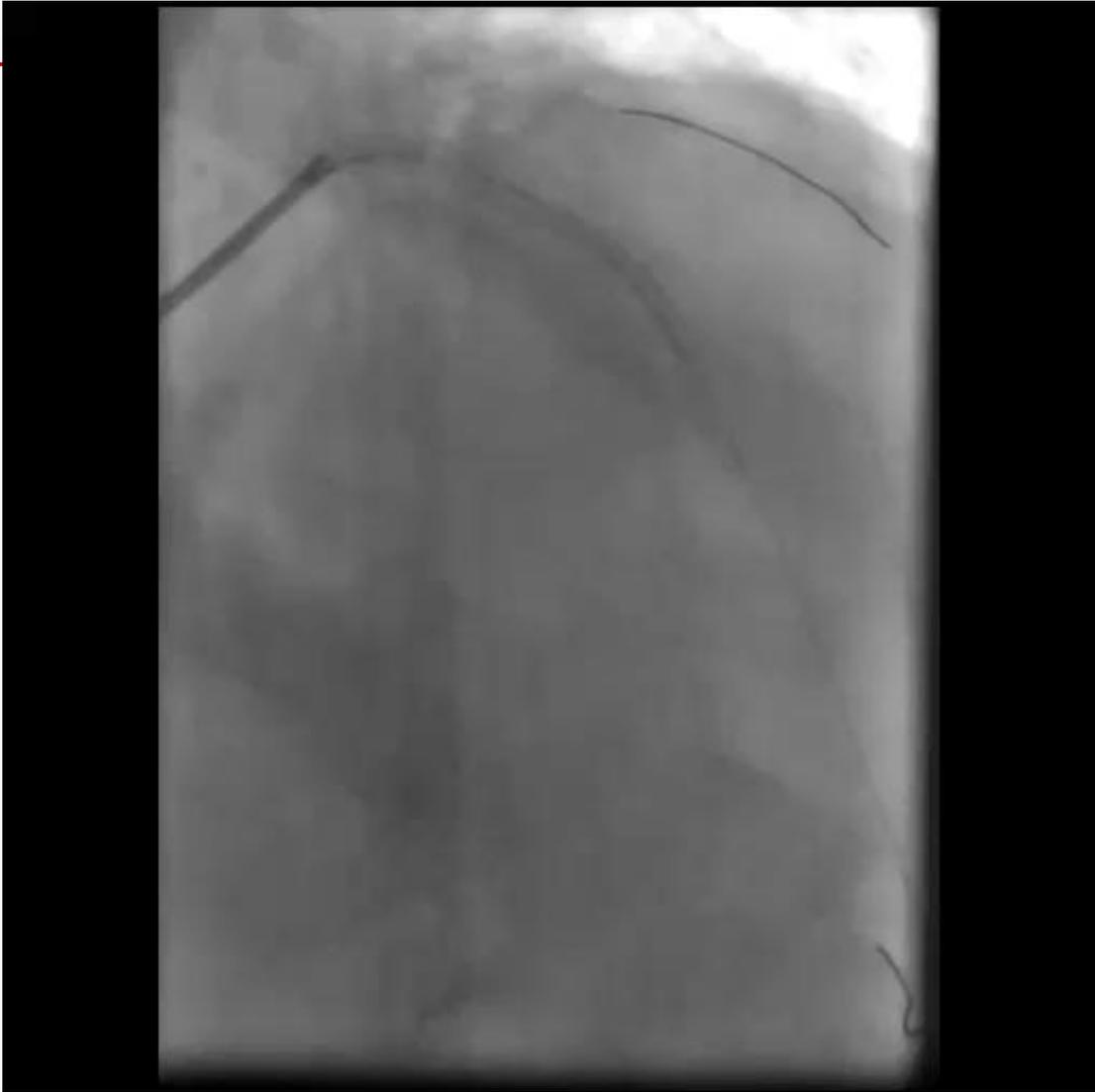
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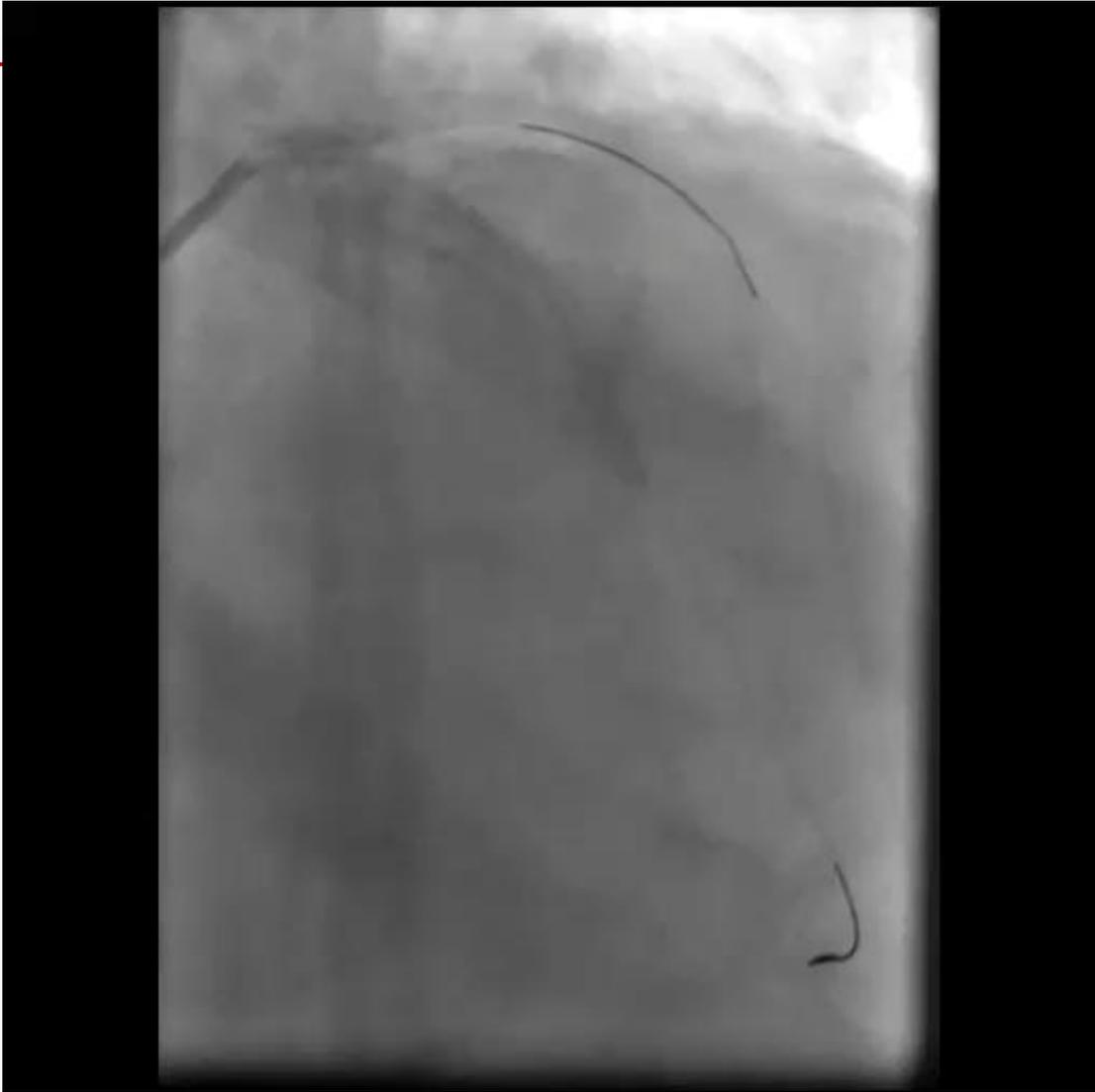


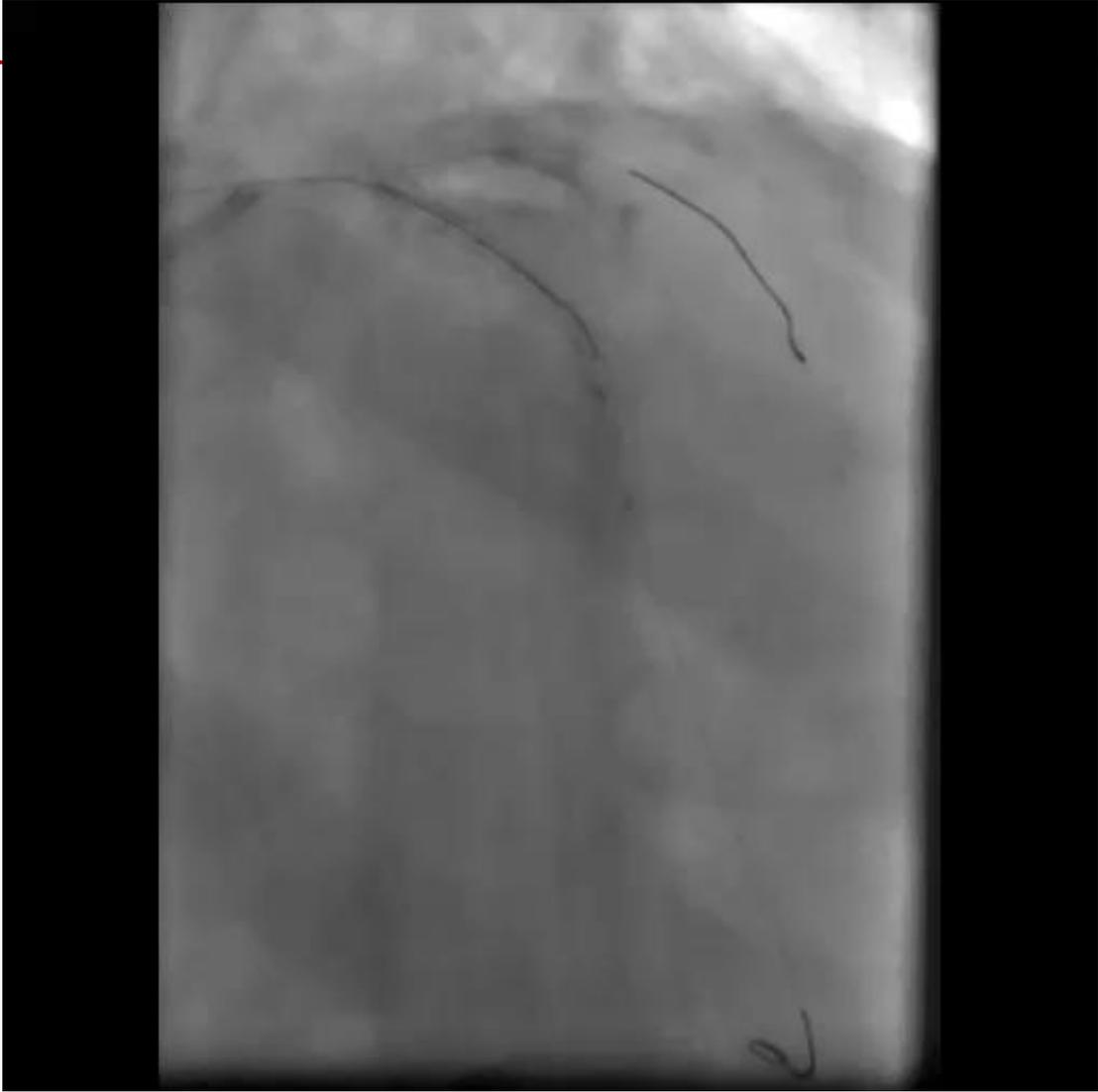
- XB 3,5 6F
- Predilatace 2,5 mm
- DES 2,5x32 a 3,0x38, postdilat. 2,75x15 a do RD 2,5x12
- Ruptura RIA
- 2. guiding XB 3,5 + extenze
- Implantace 2x Papyrus 3,0x15 a 2,5x15, postdilatace

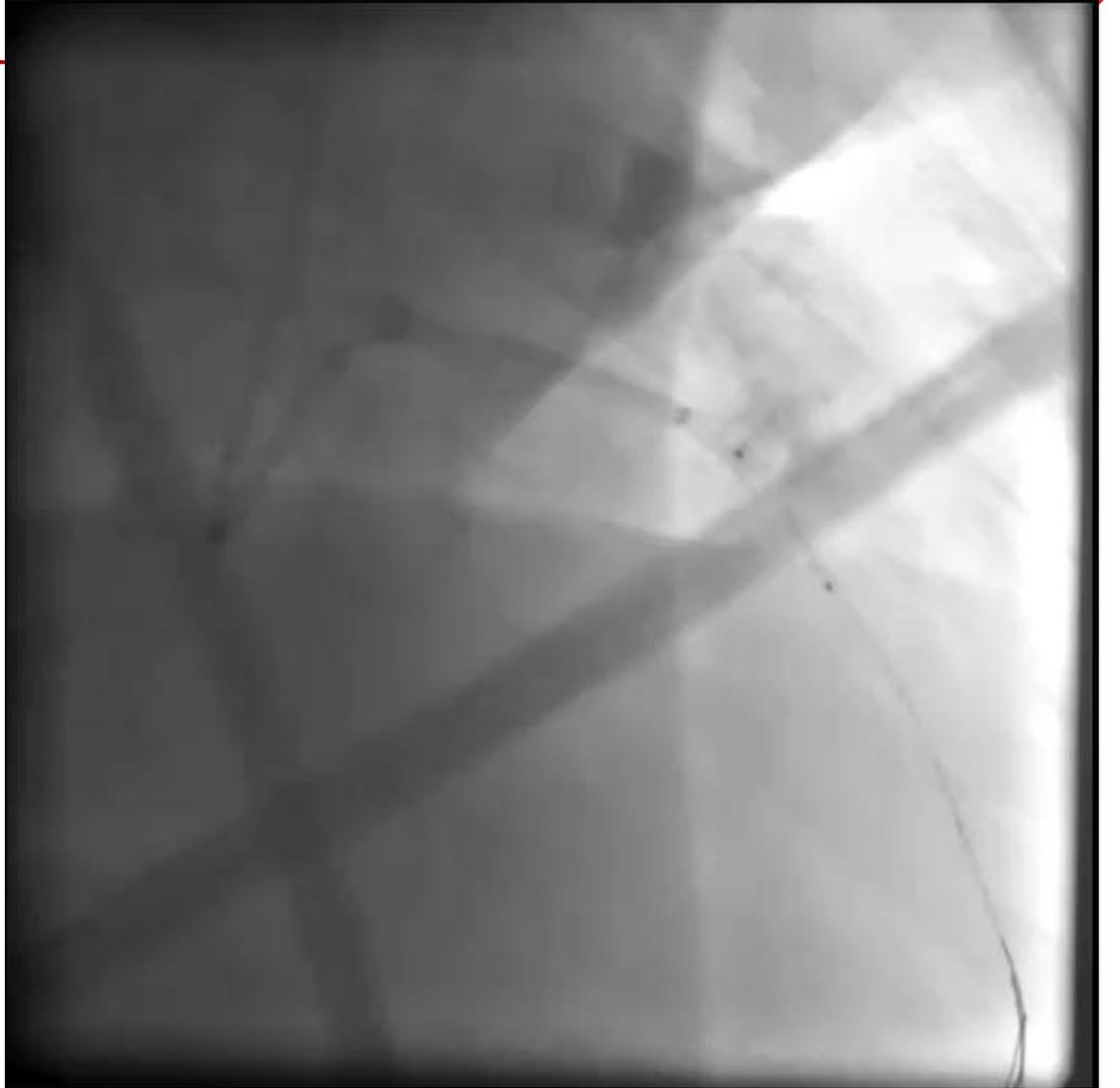


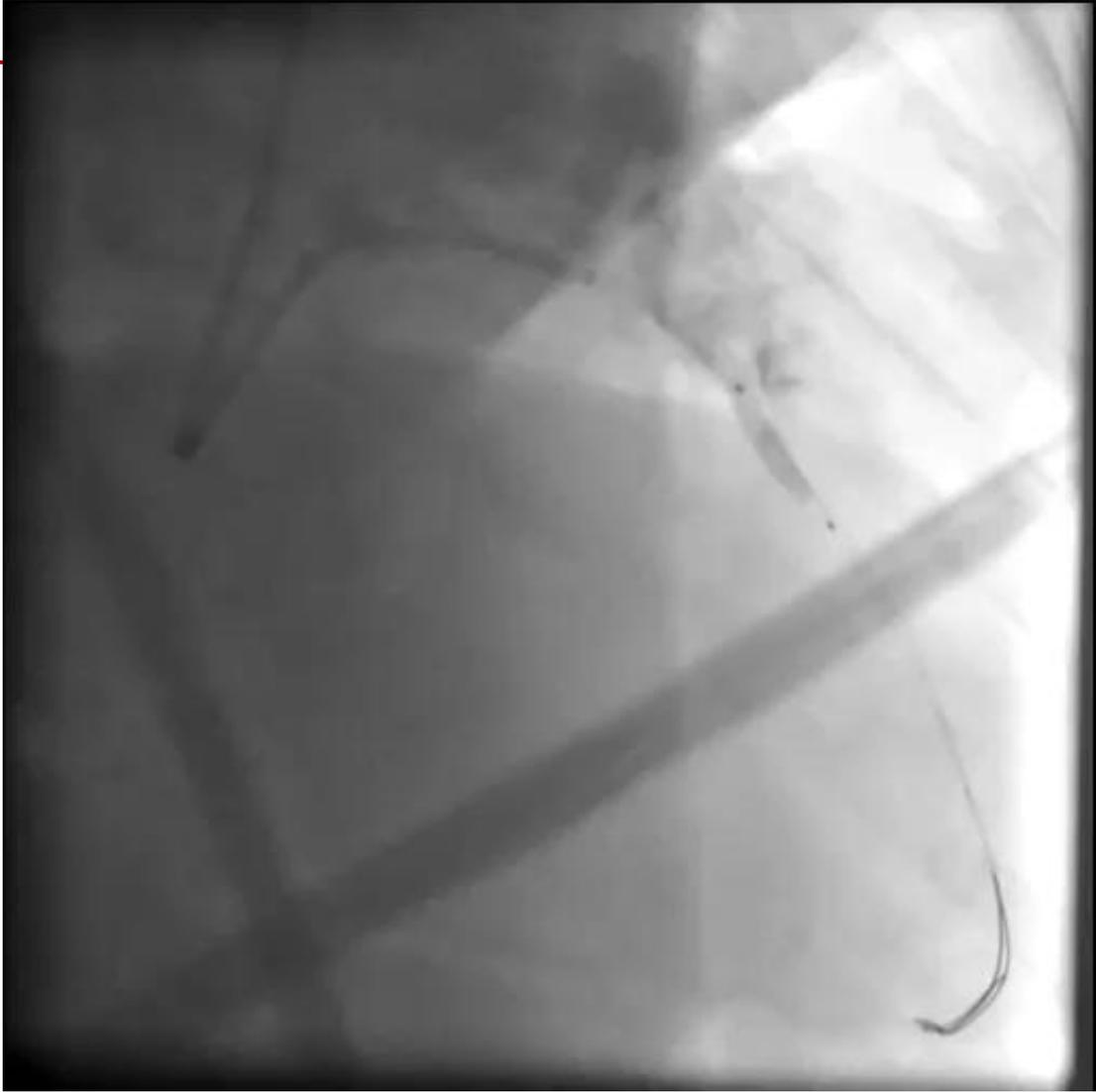












Masivní ruptura RIA



- Muž 58 let
- SAP CCS 2
- 28.11.2014 – stenoza RIA prox 60% + ve stř.č.

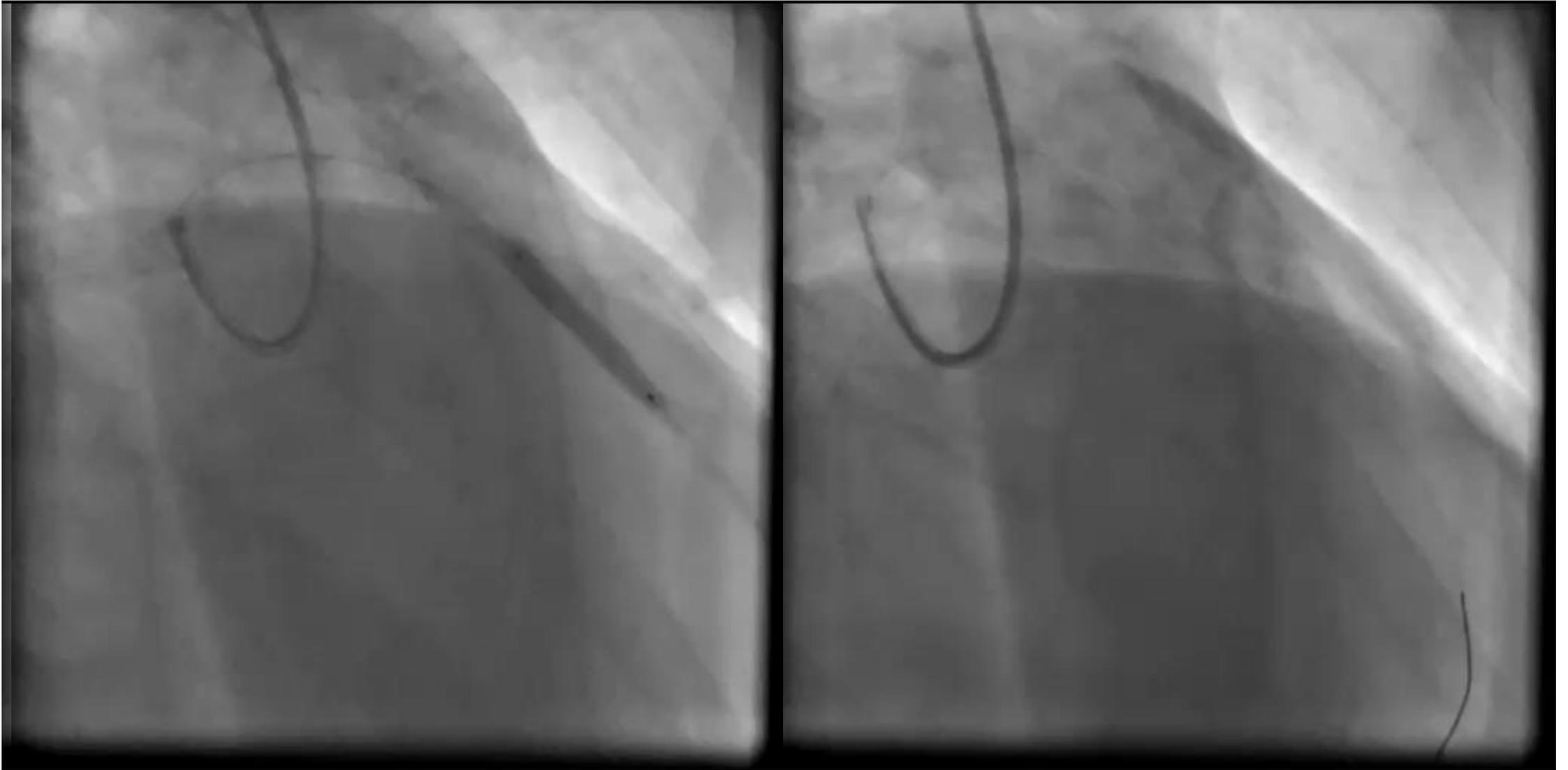
- FFR RIA - 0,73
- DES 3,5x22 8a prox. , NC 3,75x12 18a

- FFR RIA – 0,75
- DES 3,5x22 8 atm, SDS 12 a









Řešení - masivní ruptura RIA



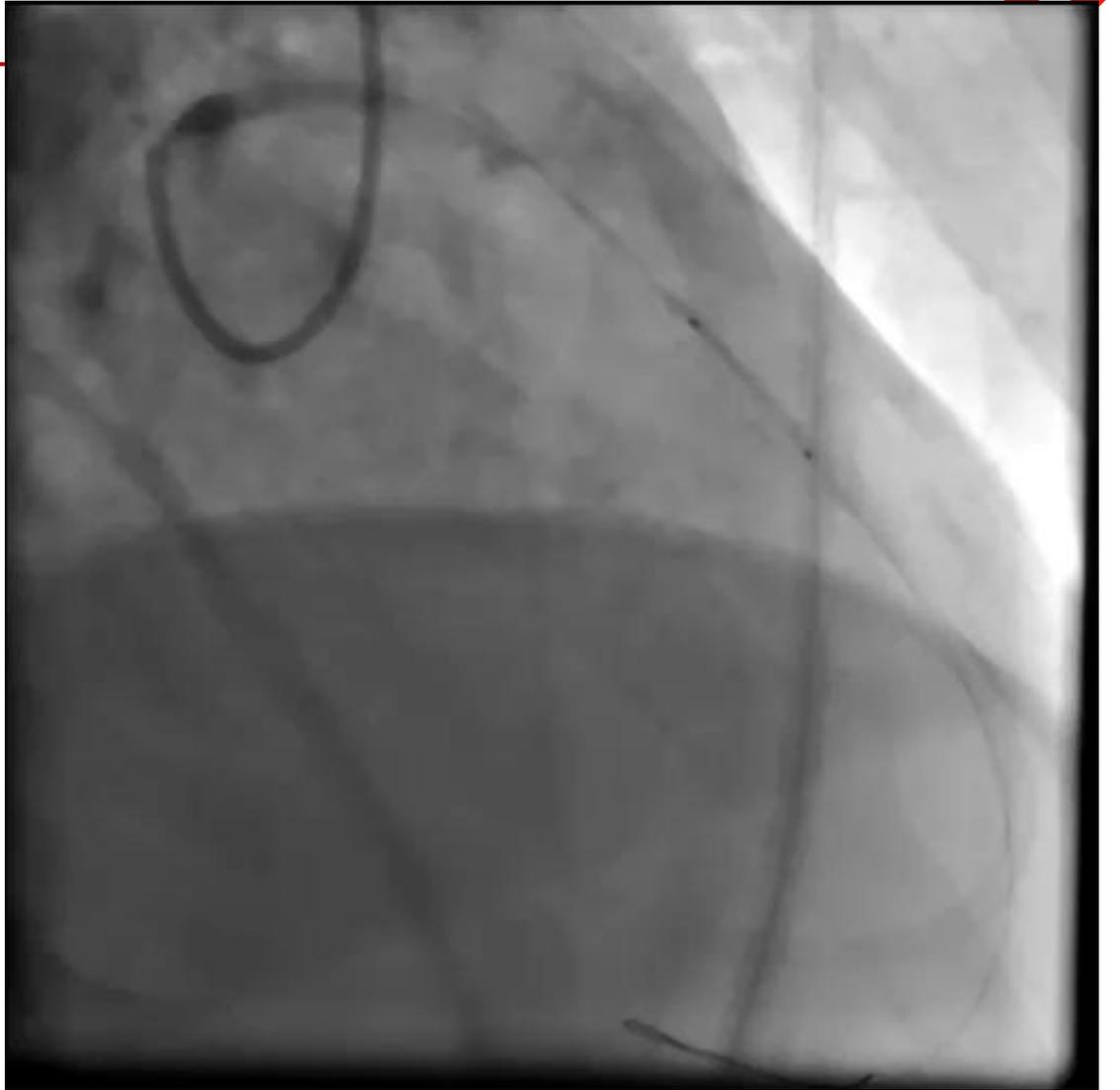
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- Ruptura RIA
- Dilatace SDS 12 atm
- Implantace Graftmaster 3,5x16









CTO – proctoring day



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- 2018
- Žena 76 let.

- ICHS chron, NYHA III
- Stp PCI RC + stent 2008

- CTO ACD

26.3.2018 - rekanalizace s proktorem



CTO – ruptura epikardiální kolaterály

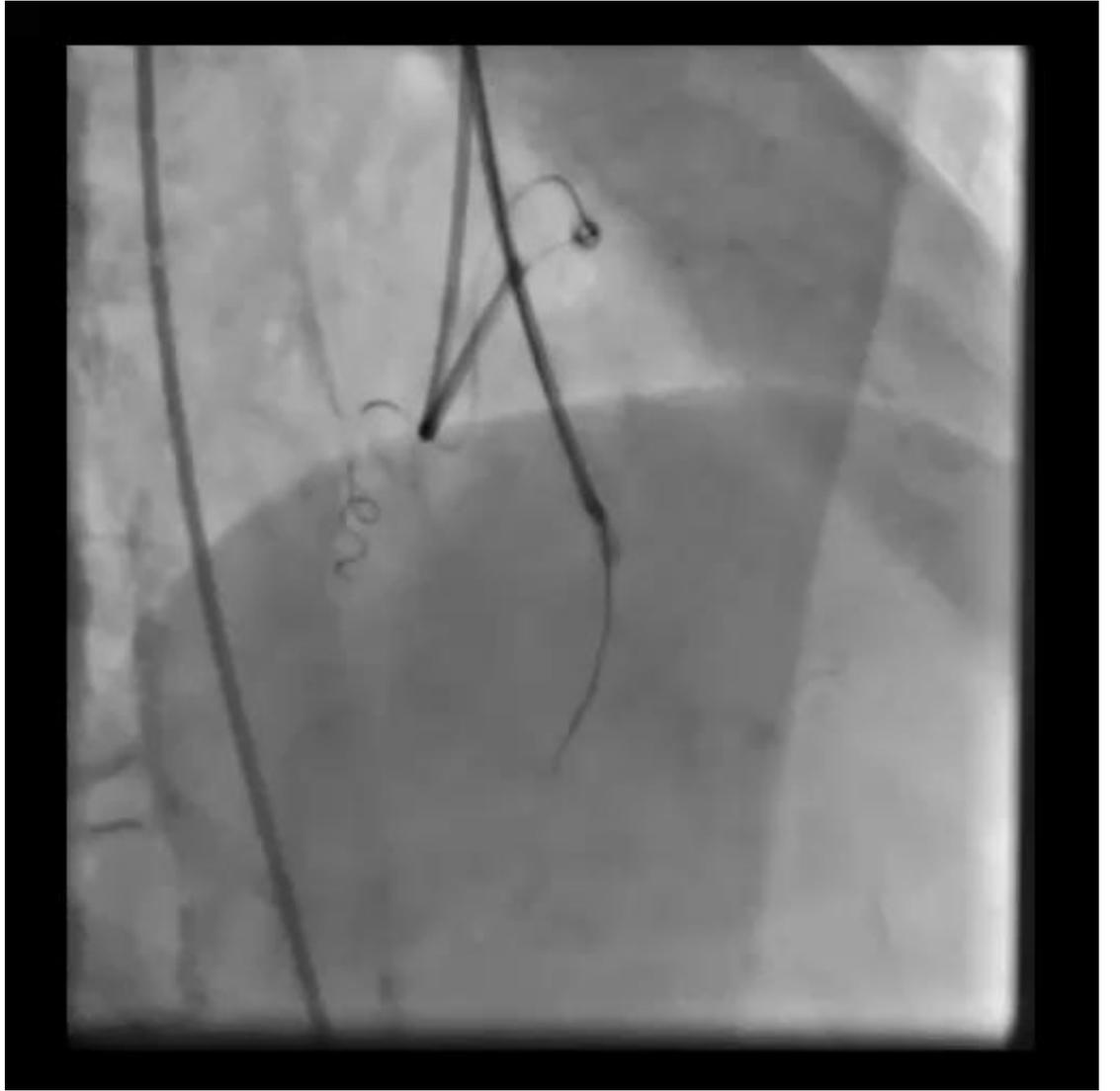
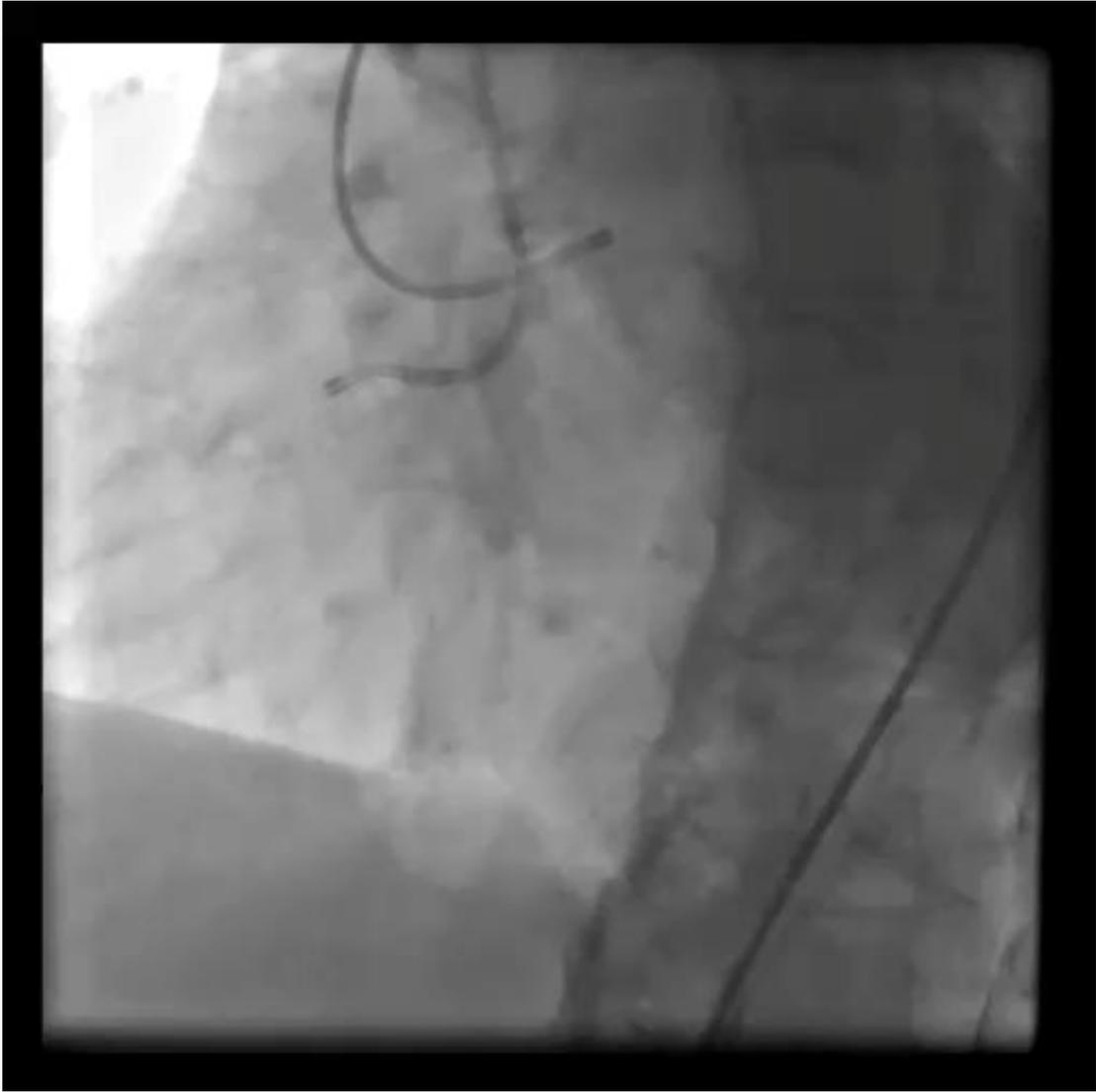


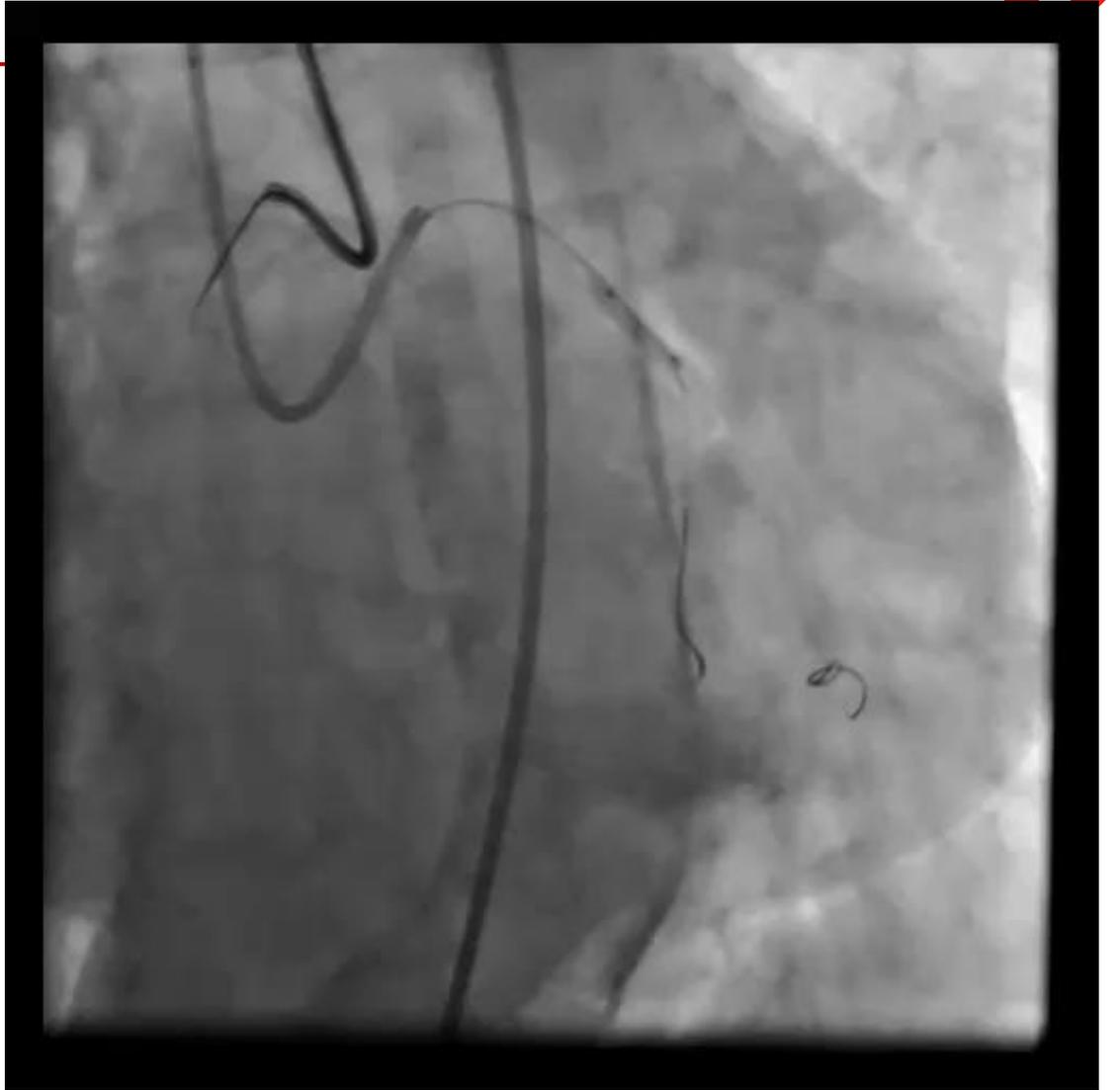
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- AL1 7F, SPB 3,5 6F
- Antegrádně - Gaia 2 subintimálně
- Retrográdně – caravel a sion black, sion – epikardiální kolaterála, ruptura







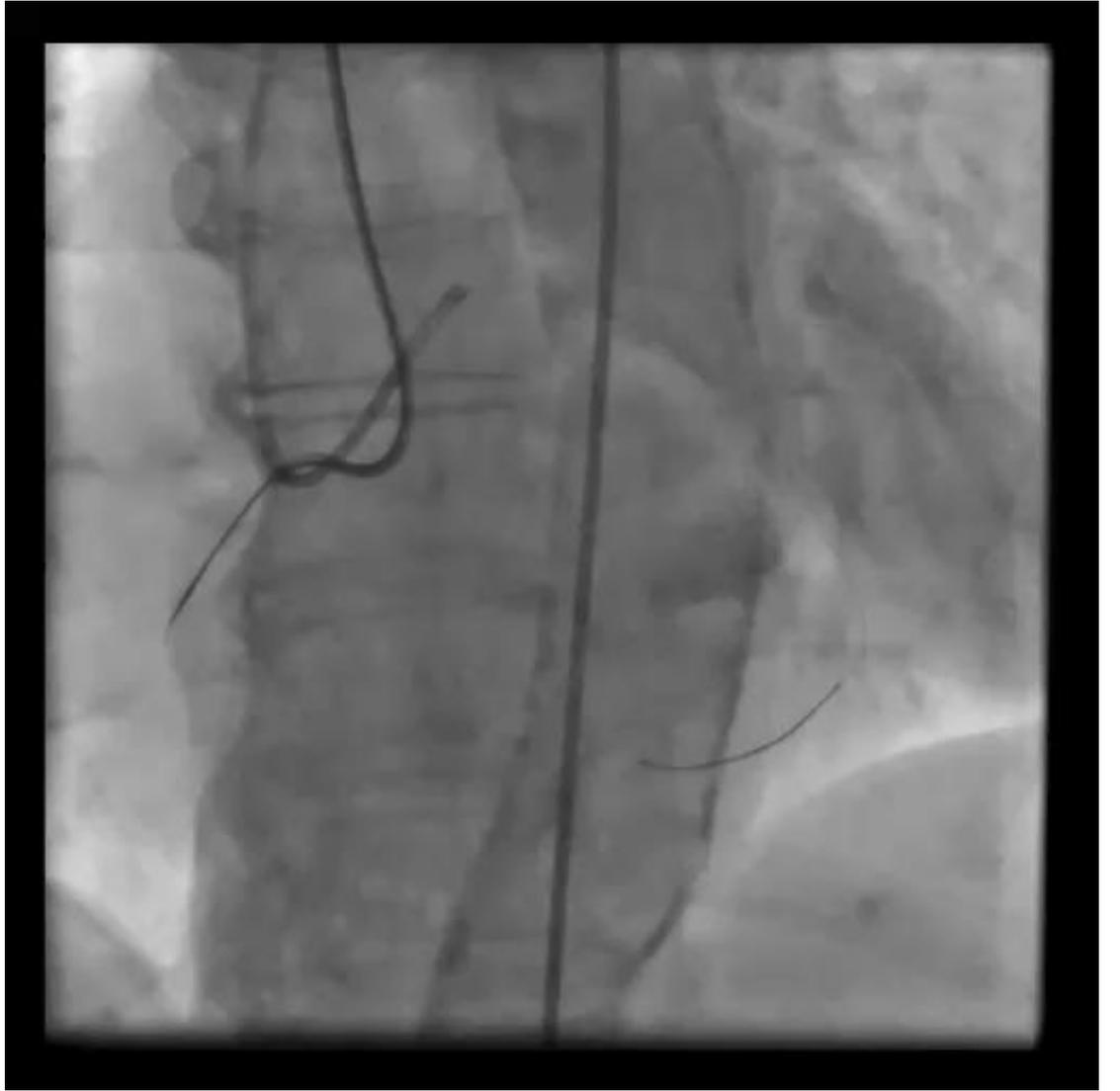
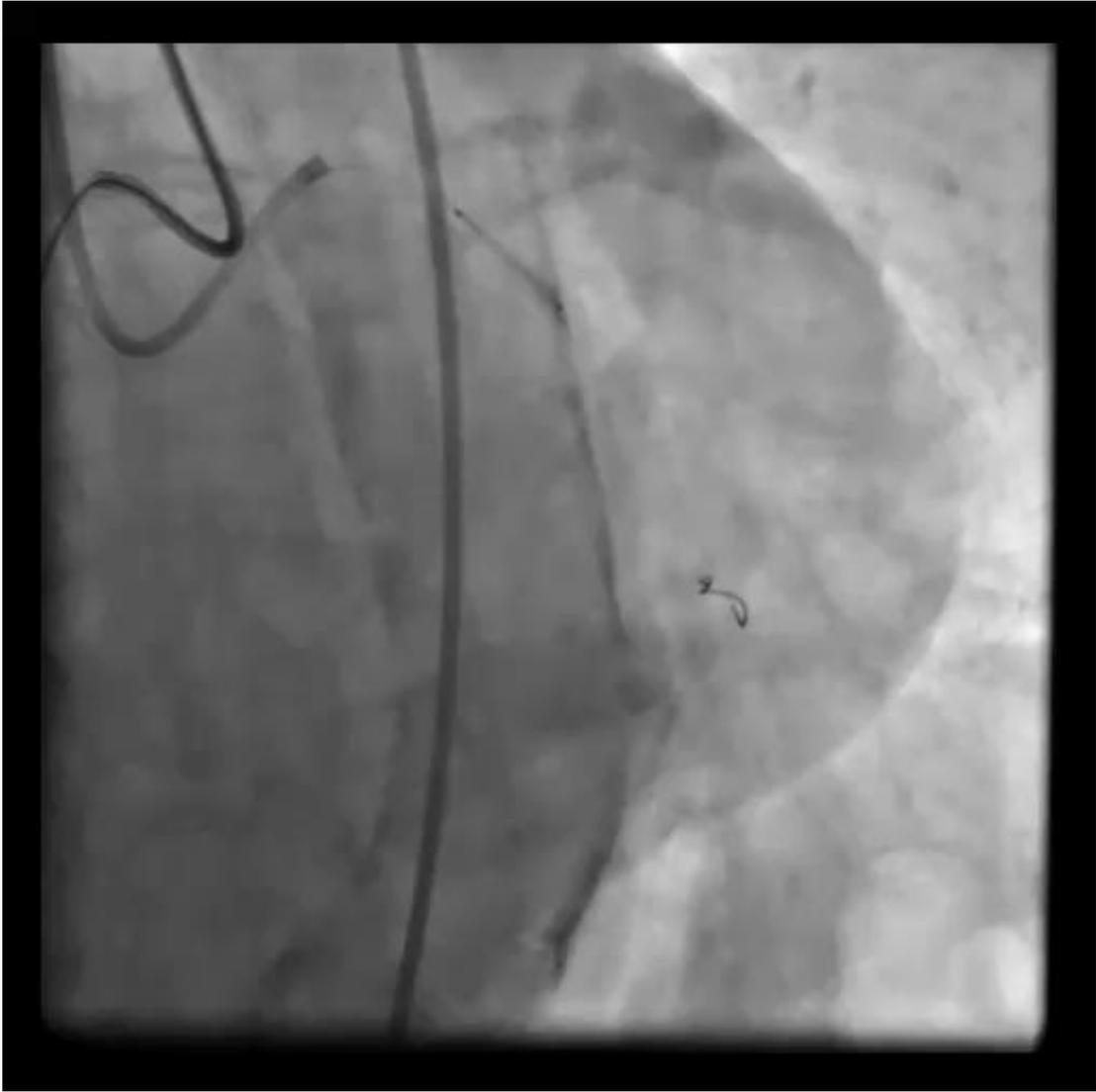
Case 6



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- Papyrus přes odstup kolaterály
- Pokračuje krvácení z kolaterály z RIA, nelze zavést coil
- Rekanalizace antegrádně

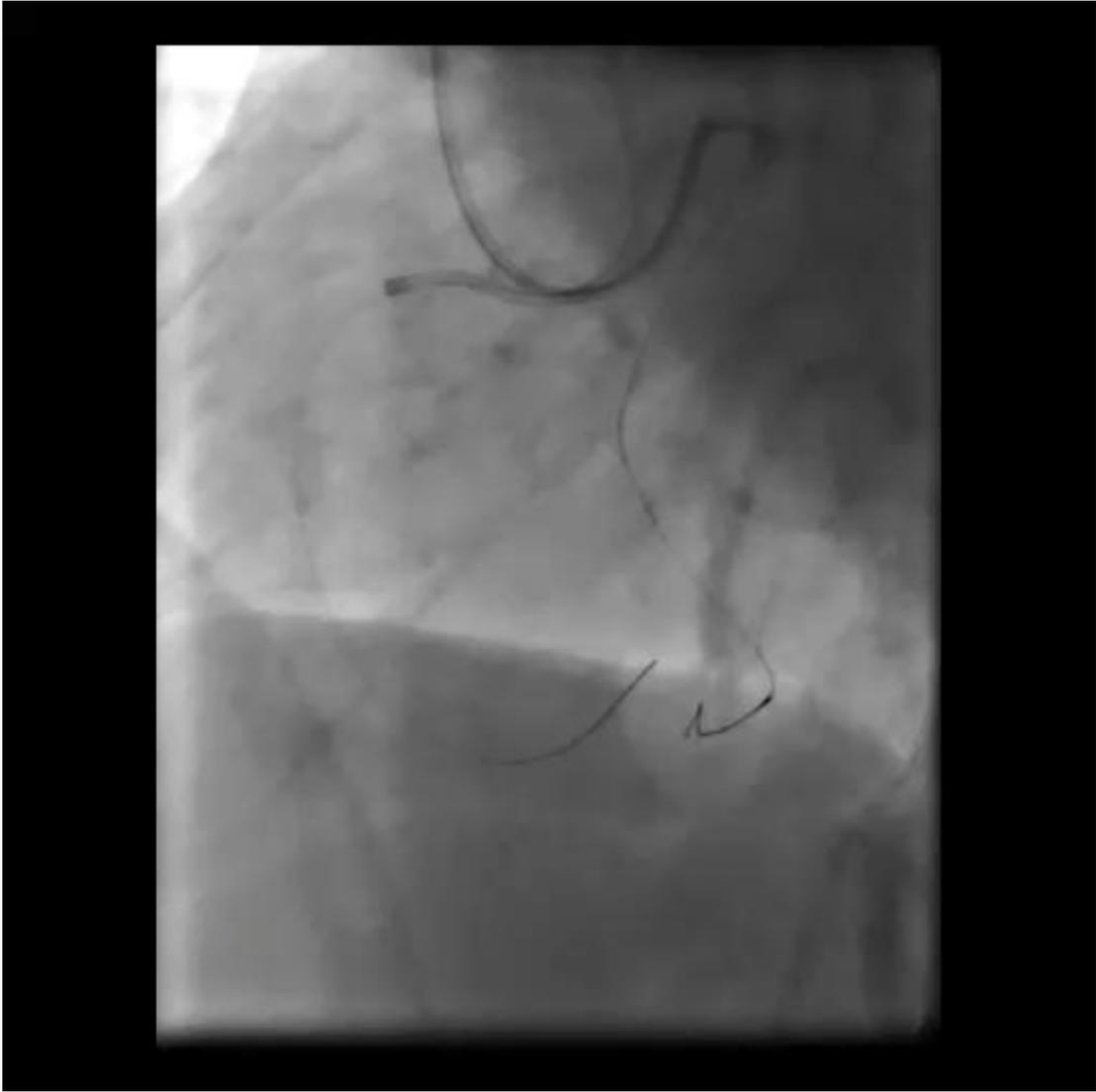


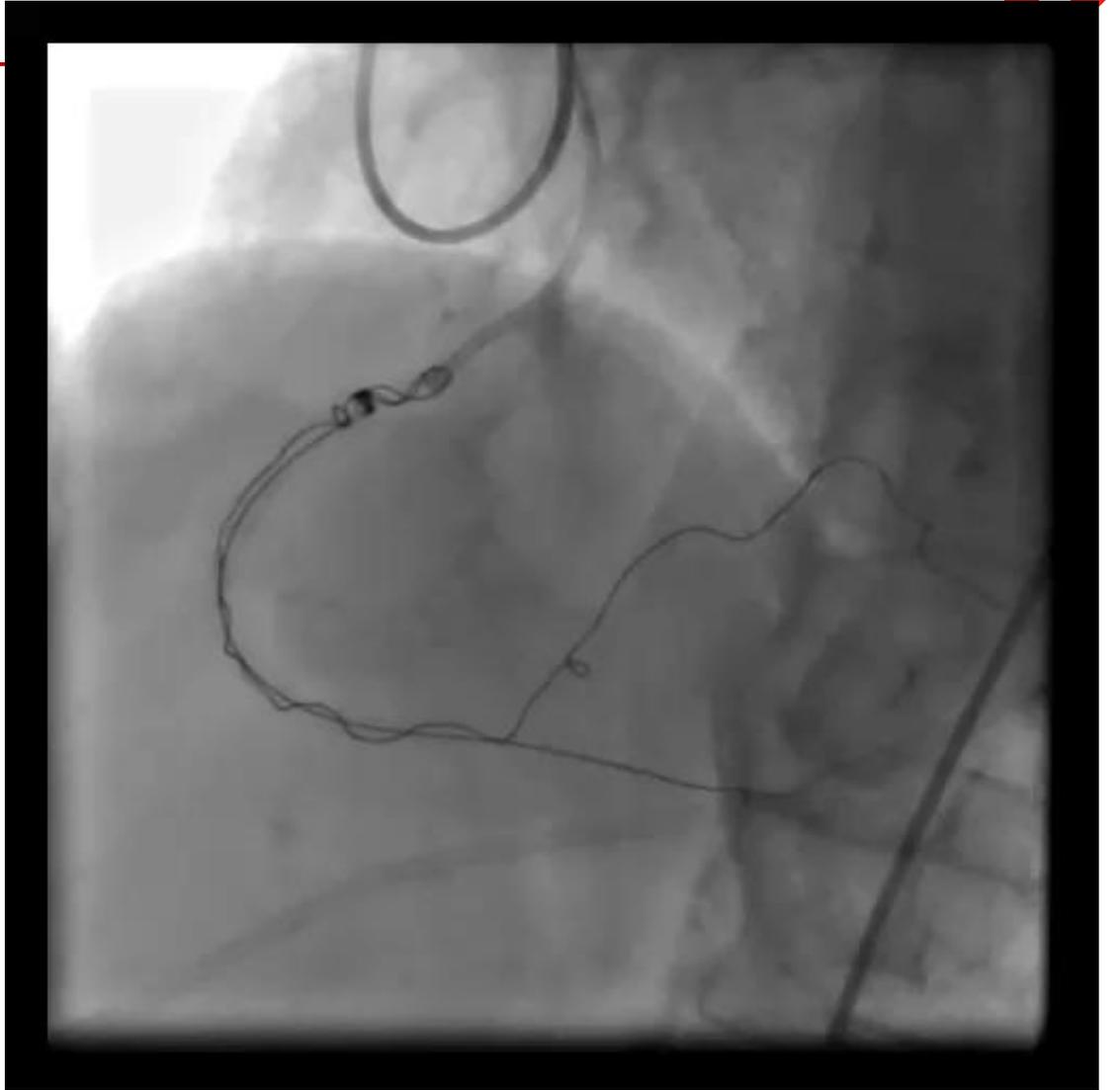
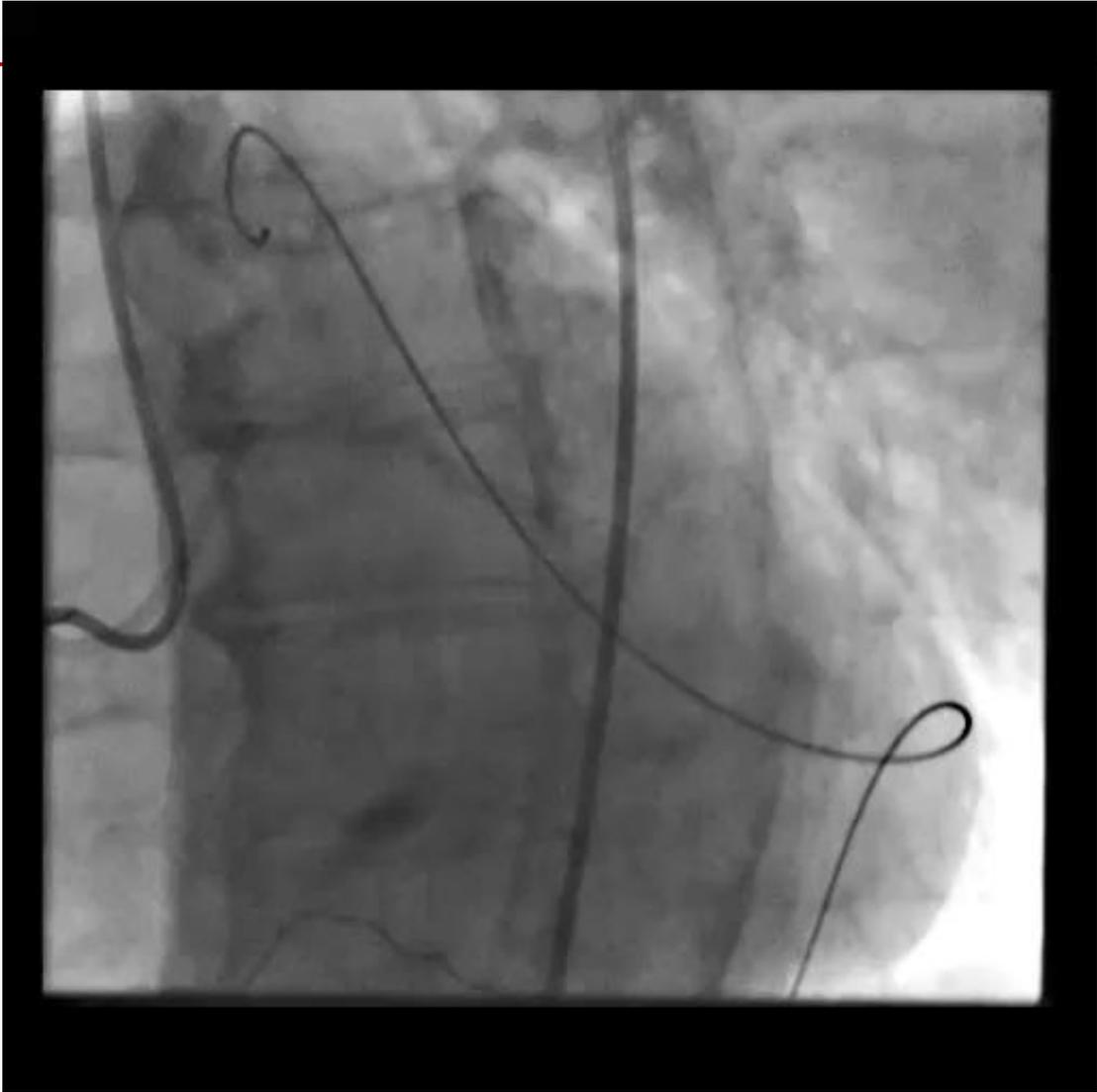


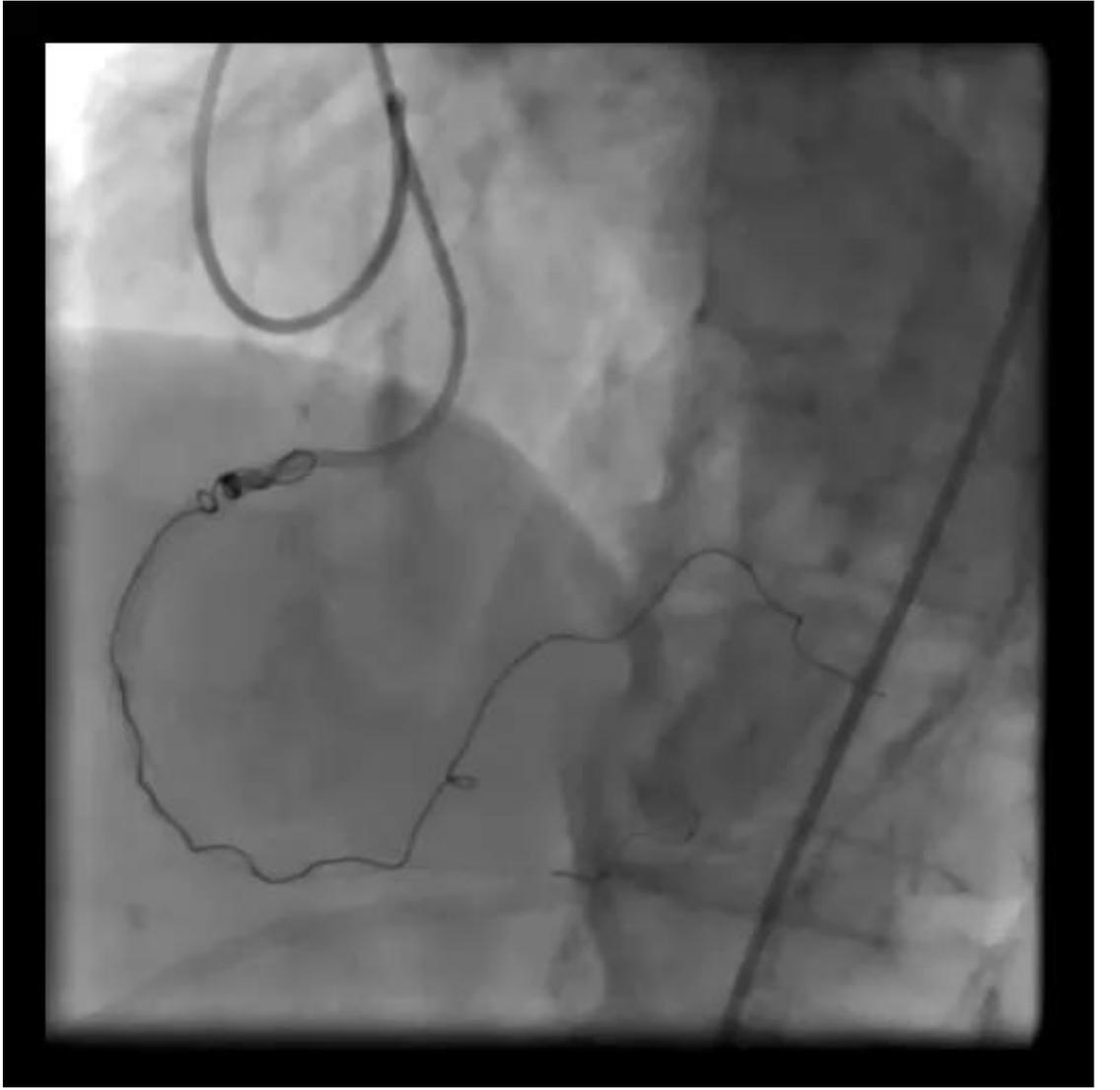
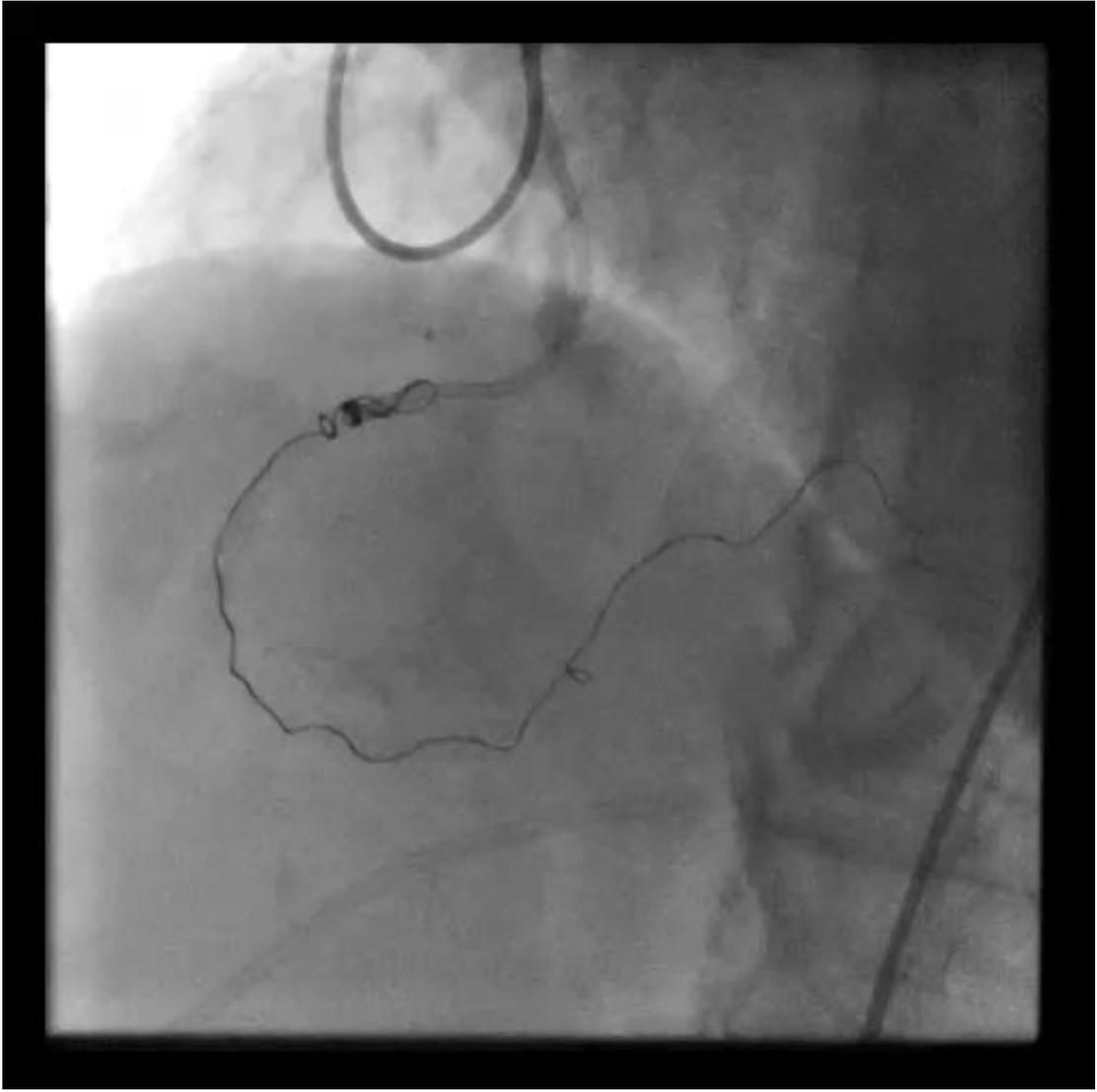


- Zaveden coil – k dispozici pouze dlouhý coil 12/30 (natažen z RPLD do ACD)
- Predilatace ACD, impl. 3x DES, překryt coil
- Nutnost perikardiocentézy
- Pokračuje efuze do perikardu
- Finecross - embolizace podkožním tukem



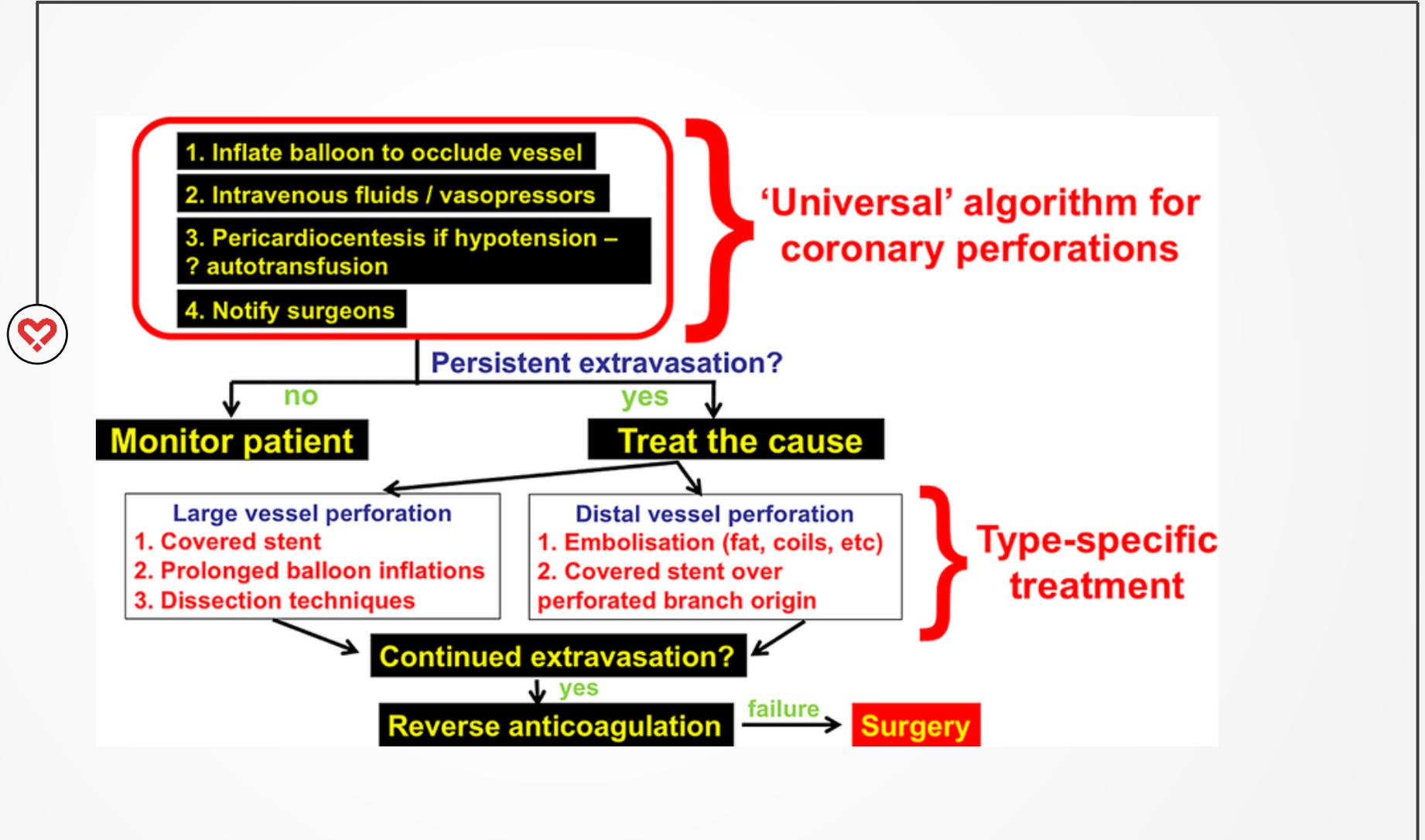






Perforace – algoritmus

(Brilakis, Manual of CTO PCI, 2023)



Ztráta stentu



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- 3.6.2009
- Muž , 66 let.

- ICHS chron, AP CCS III
- Význ.stenóza ACD , dle FFR nevýzn.stenóza RIA, RC, CTO RMS



ztráta stentu

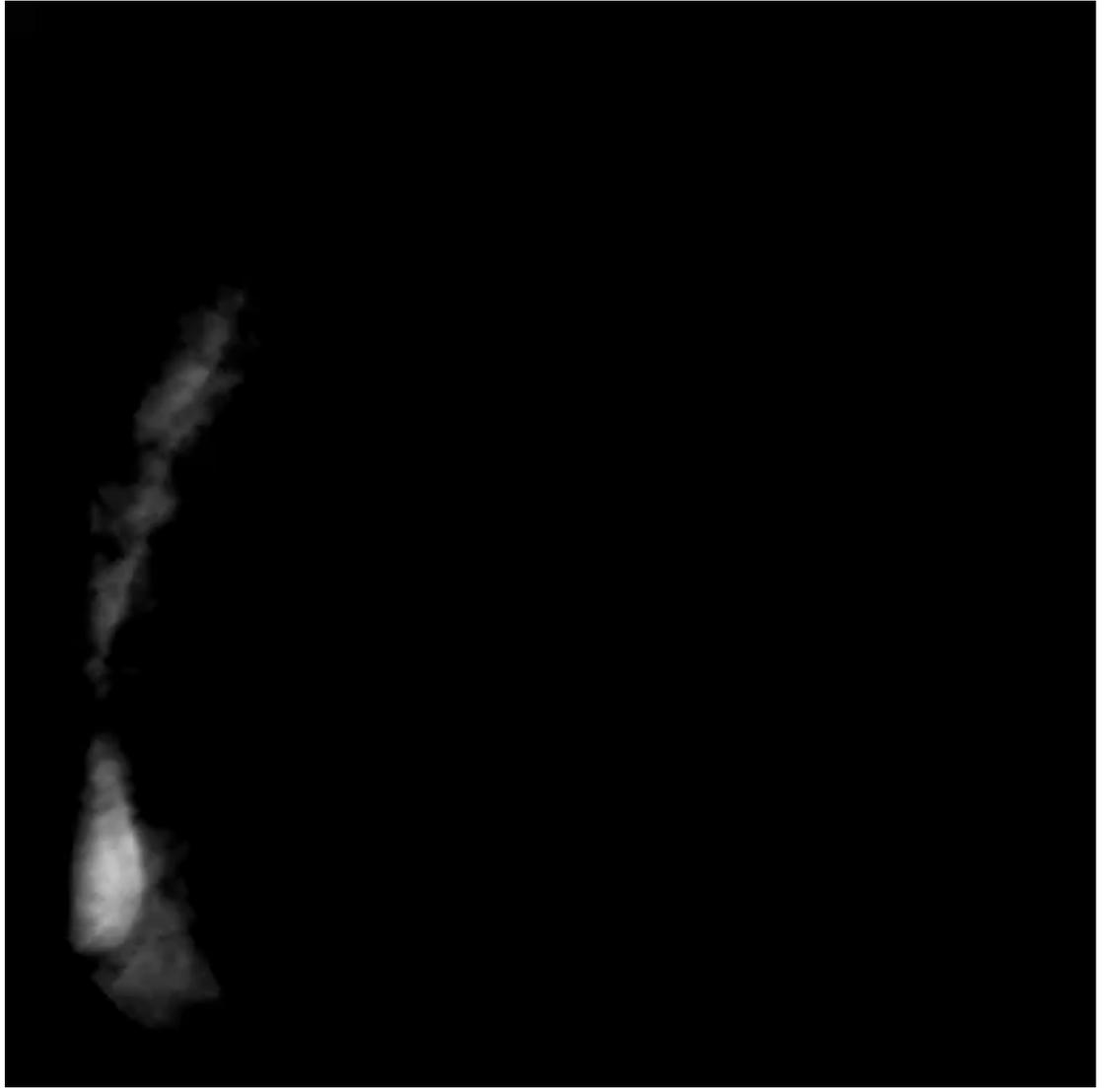
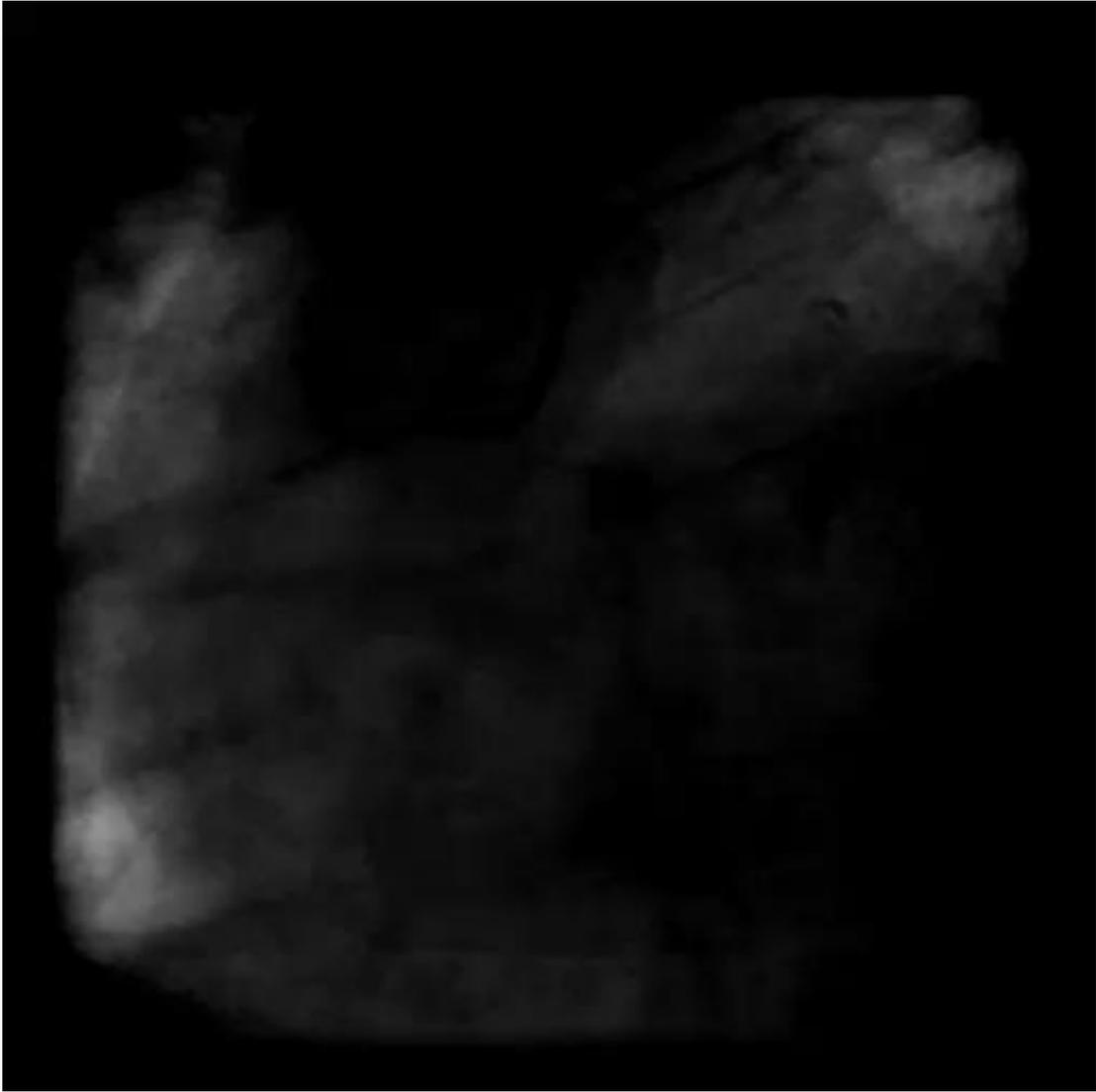


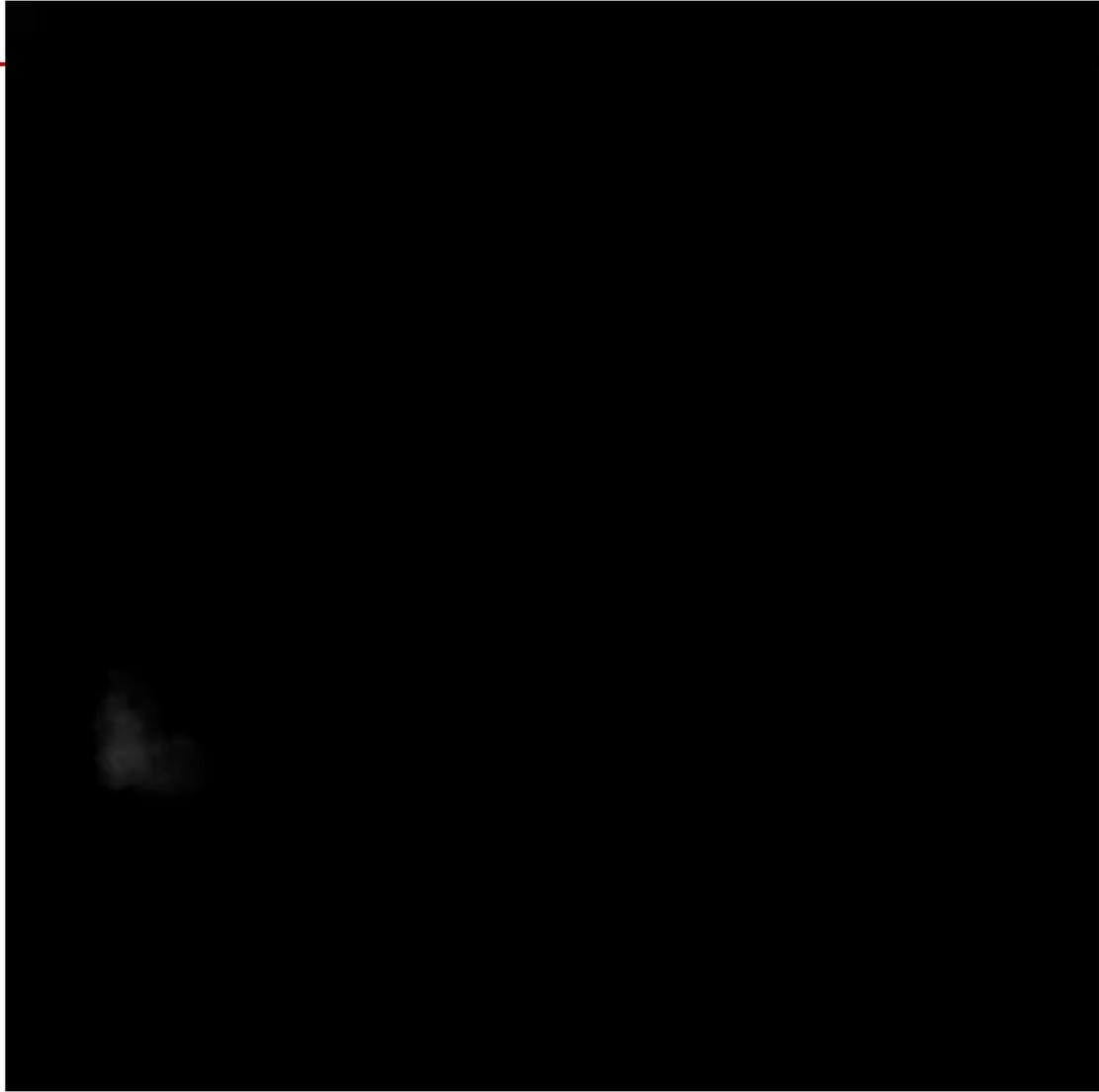
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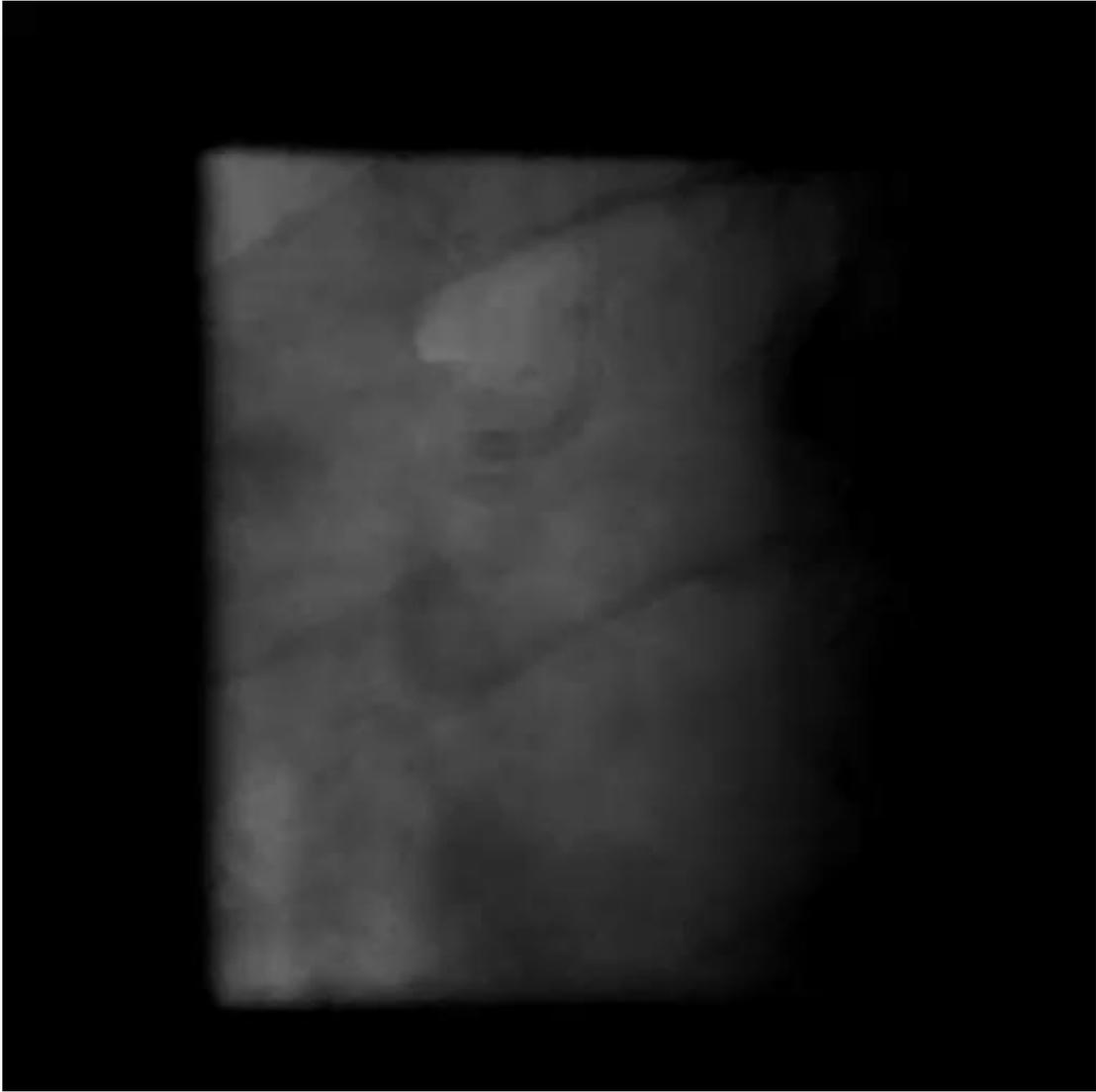


- PCI ACD
- JR4 6F
- PT2 MS
- Nelze primostent Biomatrix 2,75x14
- Predilatace 2,0x10
- Znovu nelze zavést
- stažen z balonku, uvíznutí v prox. ACD







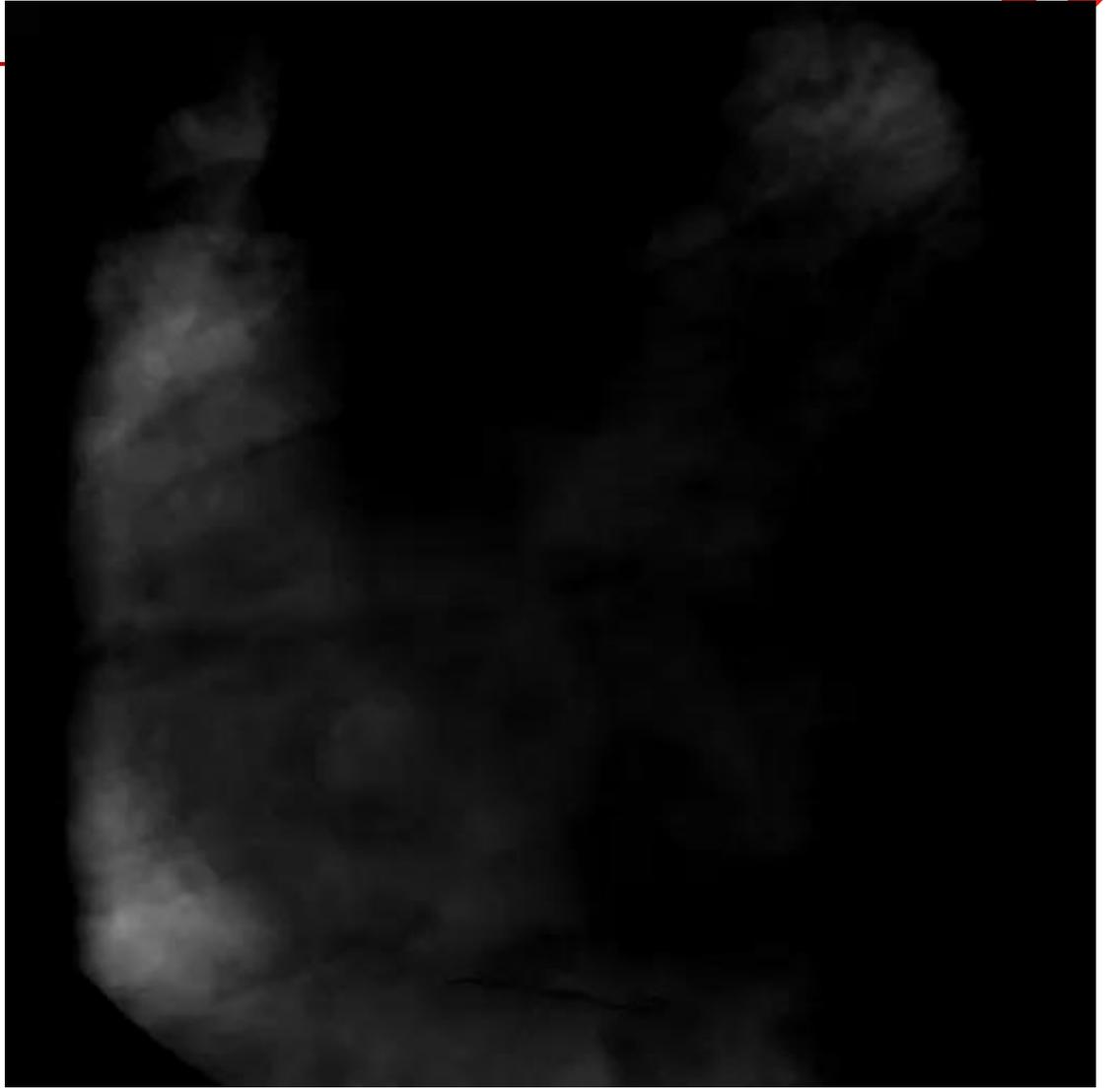
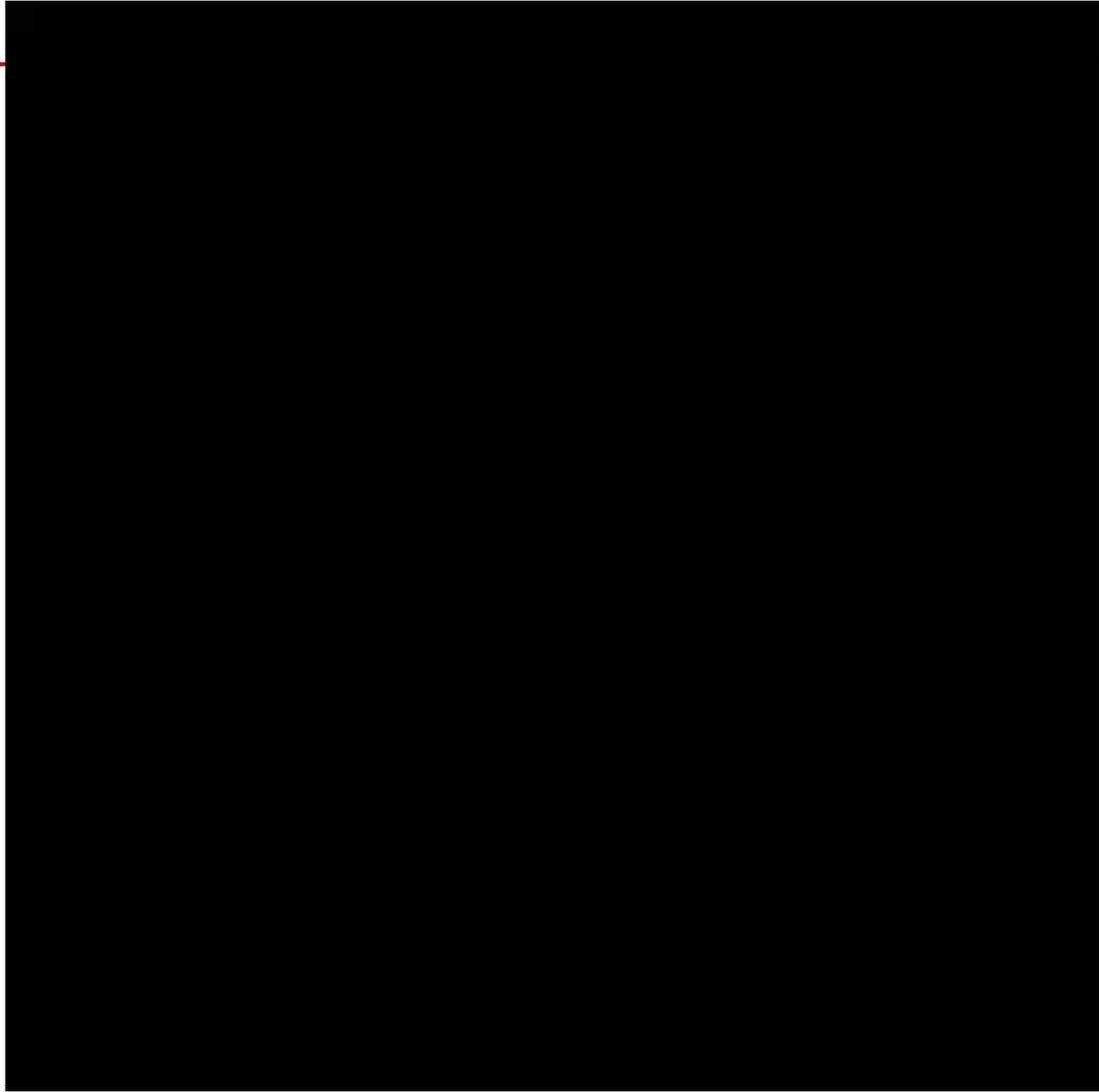


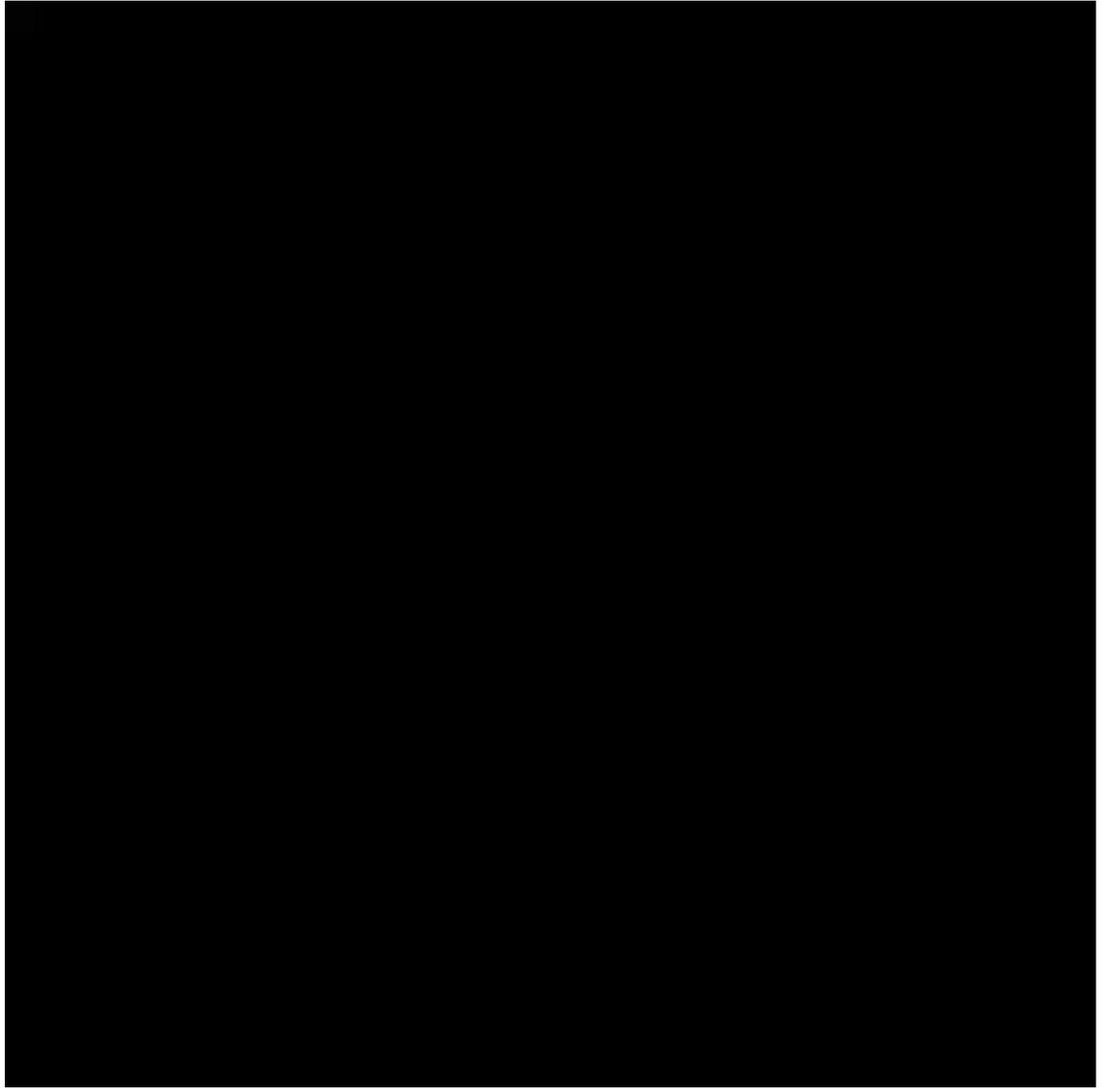
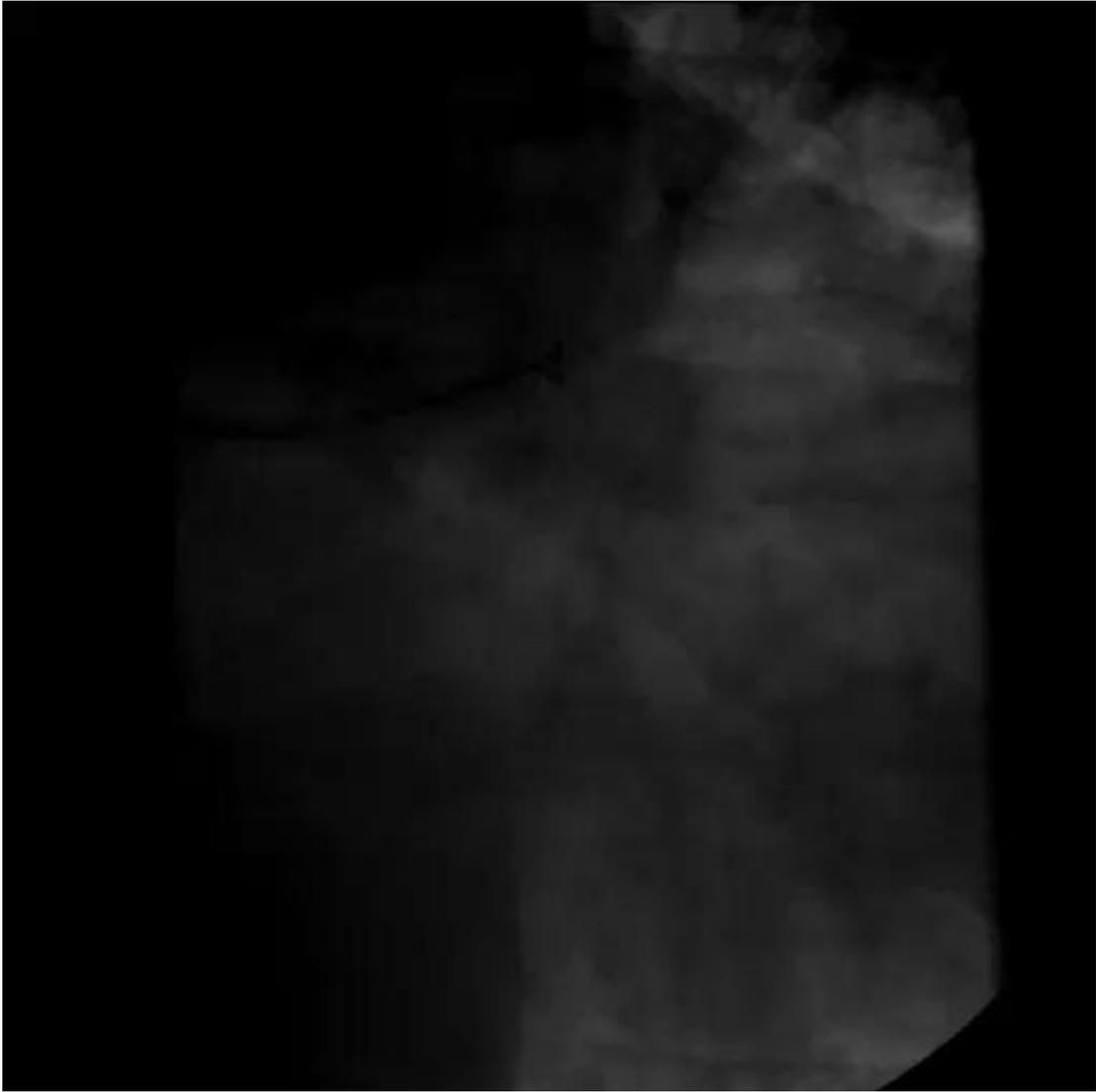
ztráta stentu



- Vodič in situ
- micro-snare 4 mm zachycení stentu, nelze vytáhnout
- Při dalším pokusu - embolizace stentu
- PCI ACD po další predilataci s primoimplantací coroflex blue 2,75x16
- XB 3,5 6F – extrakce s microsnare stent z proximální RIA





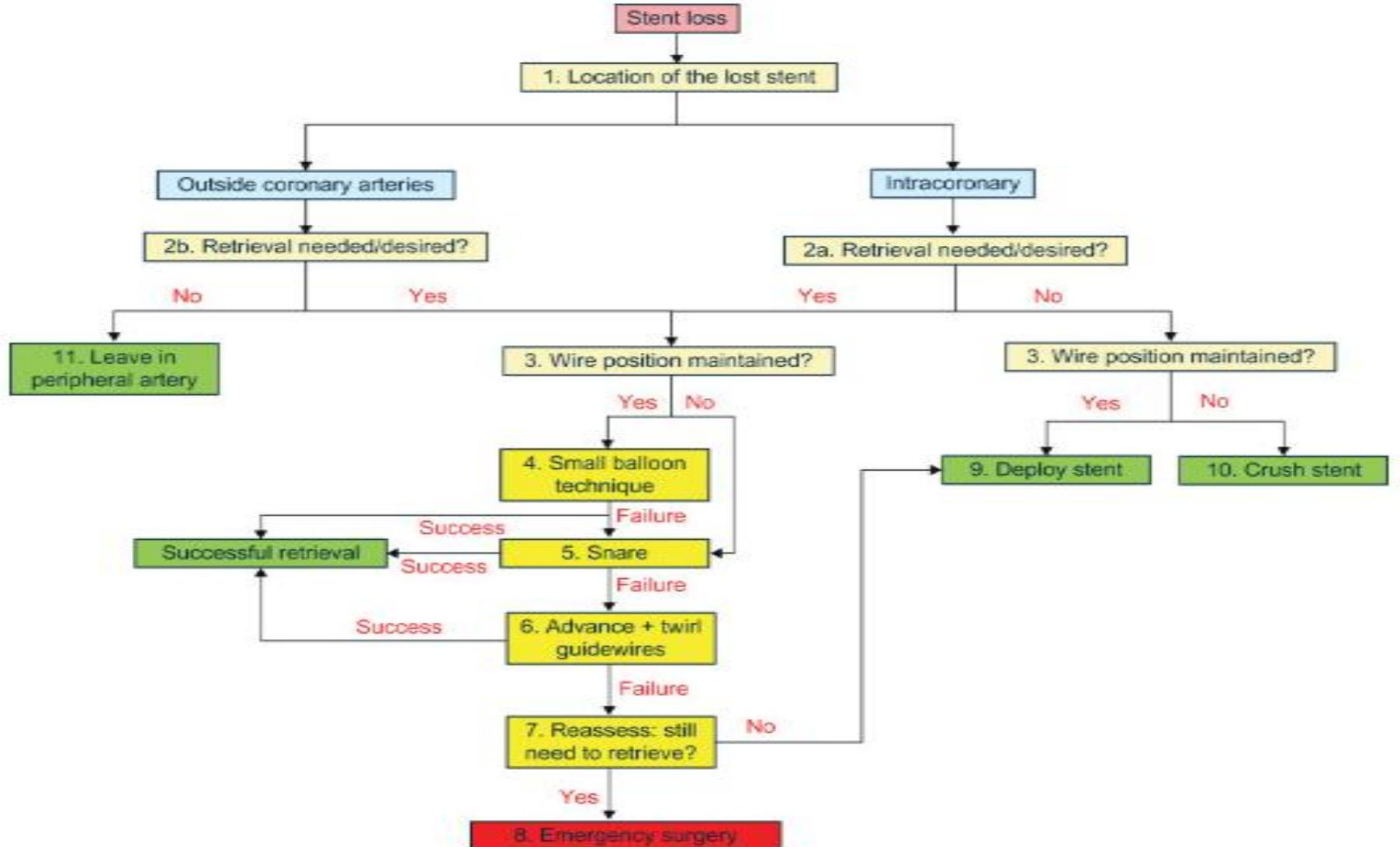


Ztracený stent

(Brilakis, Manual of CTO PCI, 2023)



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Děkuji za pozornost

