MUNI MED

FAKULTNÍ NEMOCNICE BRNO

Sympózium CARDION s.r.o.

Křehký pacient – na co si dát pozor

Koronární intervence

Petr Kala, Otakar Boček
Interní kardiologická klinika FN Brno a LF MU
5.5.2024

Křehkost – fragilita - frailty

Důvody?

- Socio-demografické (chudoba, osamělost, nízké vzdělání)
- Psychologické (deprese)
- Výživa (malnutrice)
- Polypragmázie
- Onemocnění a komplikace (zánětlivá onemocnění, nádory, endokrinní onemocnění, demence)
- Nízká fyzická aktivita

Jak měřit?

Clinical Frailty Scale (CFS) 2005, 2007..2020

Clinical Frailty Scale*

1 **Very Fit** – People who are robust, active, energetic and motivated. These people commonly exercise regularly. They are among the fittest for their age.

2 **Well** – People who have **no active disease symptoms** but are less fit than category 1. Often, they exercise or are very **active occasionally**, e.g. seasonally.

3 **Managing Well** – People whose **medical problems are well controlled,** but are **not regularly active** beyond routine walking.

4 **Vulnerable** – While **not dependent** on others for daily help, often **symptoms limit activities.** A common complaint is being "slowed up", and/or being tired during the day.

5 **Mildly Frail** – These people often have **more evident slowing,** and need help in **high order IADLs** (finances, transportation, heavy housework, medications). Typically, mild frailty progressively impairs shopping and walking outside alone, meal preparation and housework.

6 **Moderately Frail** – People need help with **all outside activities** and with **keeping house**. Inside, they often have problems with stairs and need **help with bathing** and might need minimal assistance (cuing, standby) with dressing.

7 **Severely Frail** – **Completely dependent for personal care**, from whatever cause (physical or cognitive). Even so, they seem stable and not at high risk of dying (within ~ 6 months).

8 **Very Severely Frail** – Completely dependent, approaching the end of life. Typically, they could not recover even from a minor illness.

9. **Terminally Ill** - Approaching the end of life. This category applies to people with **a life expectancy <6 months**, who are **not otherwise evidently frail.**

Scoring frailty in people with dementia

The degree of frailty corresponds to the degree of dementia. Common **symptoms in mild dementia** include forgetting the details of a recent event, though still remembering the event itself, repeating the same question/story and social withdrawal.

In **moderate dementia**, recent memory is very impaired, even though they seemingly can remember their past life events well. They can do personal care with prompting.

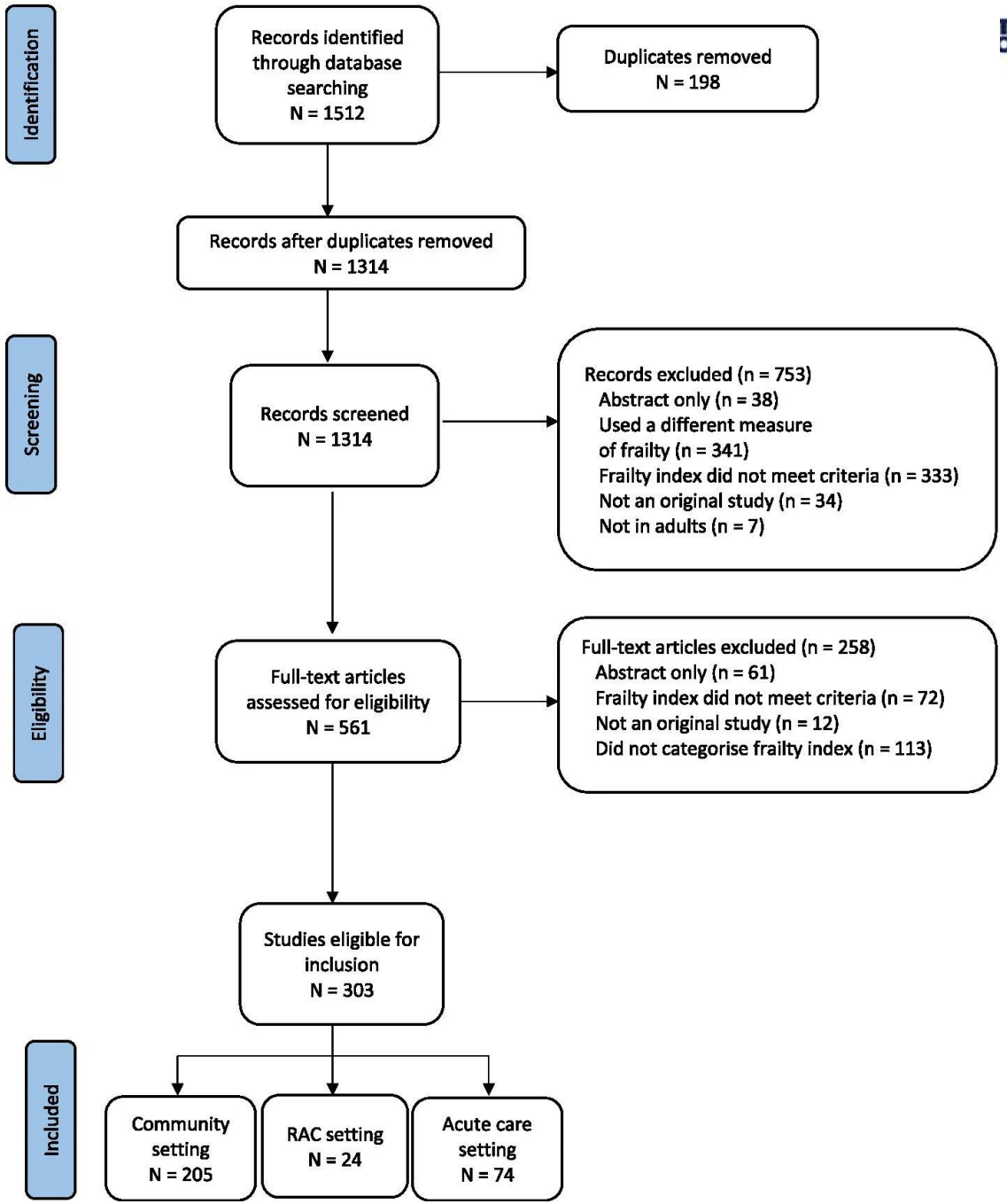
In **severe dementia**, they cannot do personal care without help.

* 1. Canadian Study on Health & Aging, Revised 2008.
2. K. Rockwood et al. A global clinical measure of fitness and frailty in elderly people. CMAJ 2005;173:489-495.

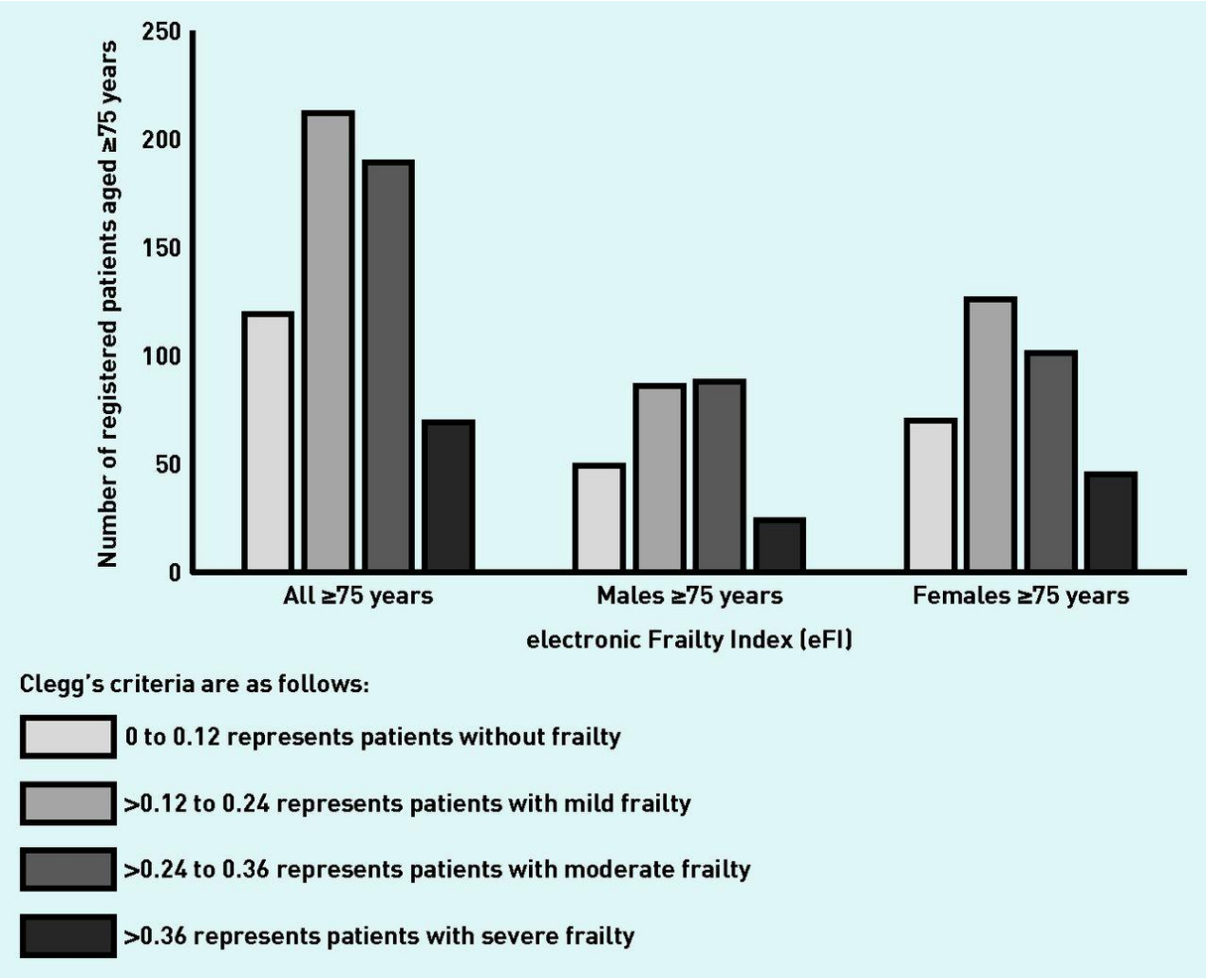
DALHOUSIE UNIVERSITY *Inspiring Minds*

Gordon EH et al. BMC Geriatrics 2021

Frailty index cut-off pro frailty 0,21 - 0,25



Prevalence of electronic Frailty Index (eFI) categories for all patients aged ≥75 years.



Lynn N Lansbury et al. Br J Gen Pract 2017;67:e751-e756

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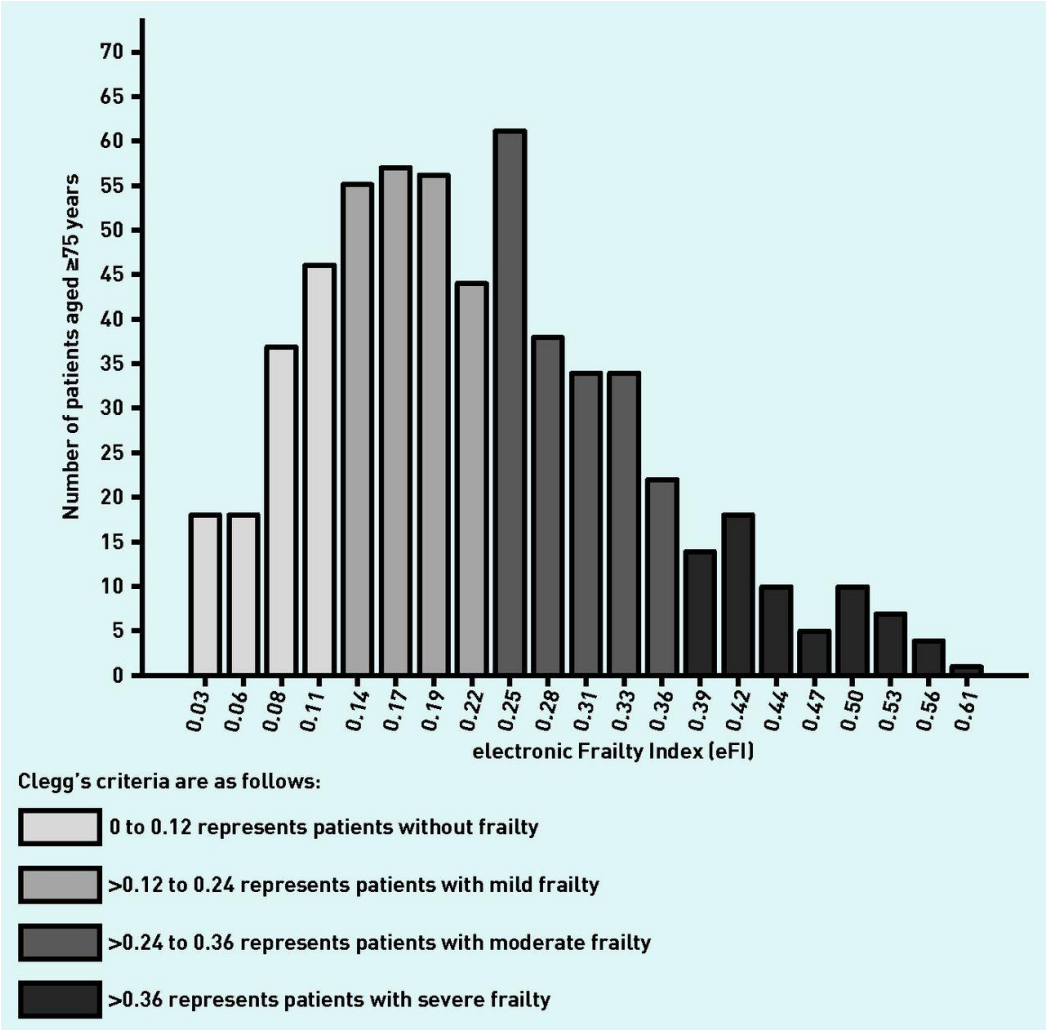


Lynn N Lansbury et al. Br J Gen Pract 2017;67:e751-e756

CTO

Methods

- Data sourced from the National Readmission Database (NRD) from 2016 to 2020.
- *Patients categorized into low and high-frailty risk groups using the Hospital Frailty Risk Score (HFRS).*
- Analysis of 30-day readmission rates and secondary outcomes.

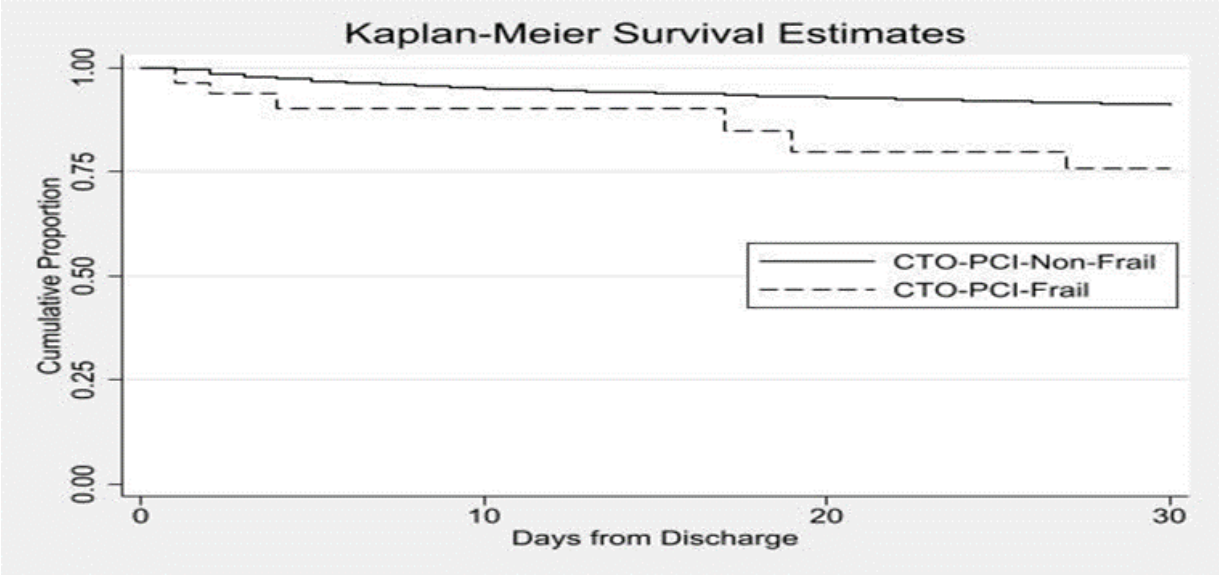
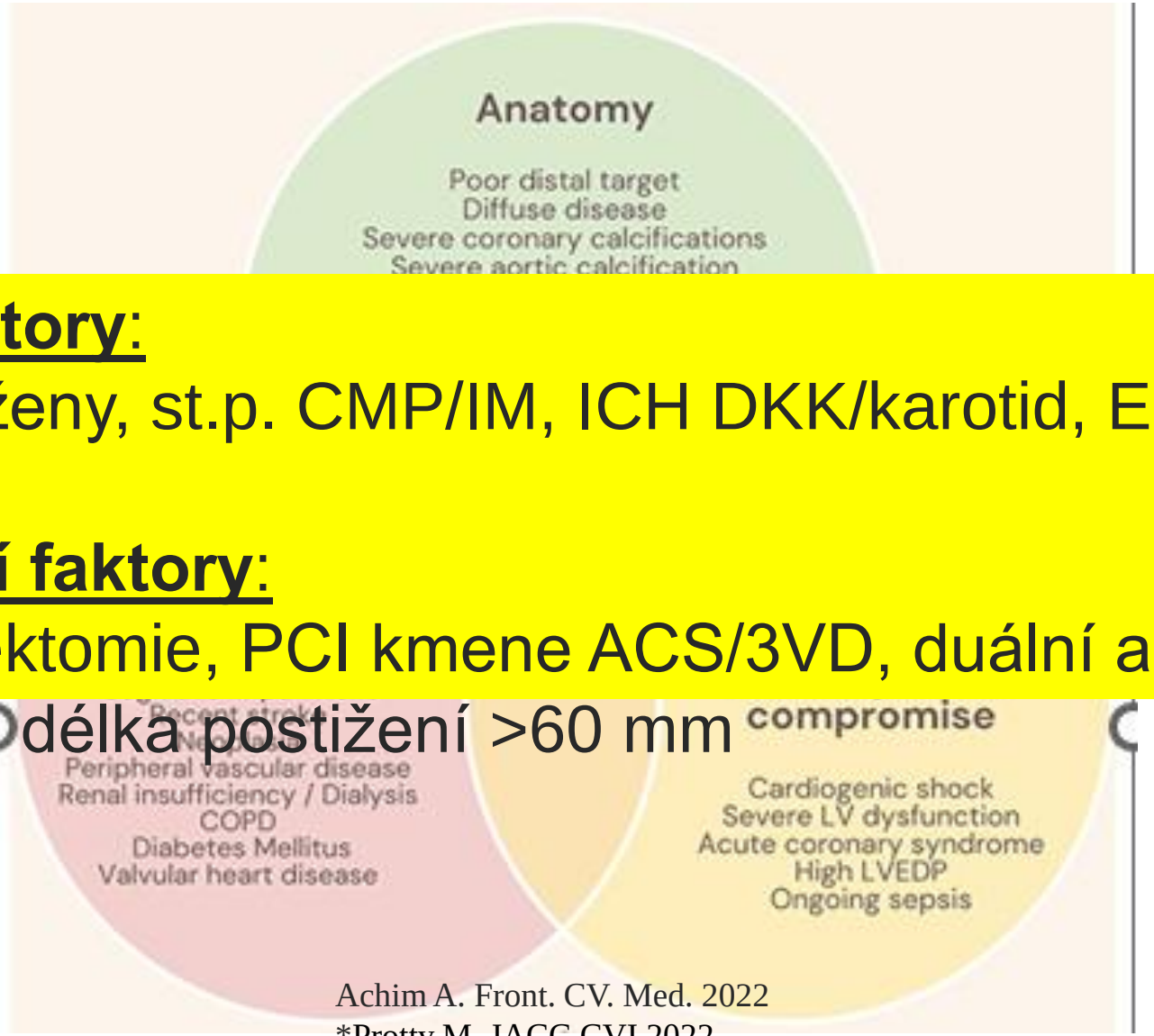


Table II: Secondary Outcomes in Frail vs. Non-Frail Patients

SECONDARY OUTCOMES		CTO-Frailty	CTO-No-Frailty
MACE		2.54	1.41
Acute Kidney Injury		15.8	7.44
Post-Procedural Complication		5.1	2.2
LOS		4.5(4.8)	2.9(2.9)
Total hospital charges		98633(70578)	76277(94523)

CHIP…v (intervenční) kardiologii

CHIP = Complex High-risk Indicated Procedures



***Klinické faktory**:
Věk >80 let, ženy, st.p. CMP/IM, ICH DKK/karotid, EF LK <30%, CHRI

Procedurální faktory:
Rotační aterektomie, PCI kmene ACS/3VD, duální arteriální přístup, MSP, celková délka postižení >60 mm

Achim A. Front. CV. Med. 2022
*Protty M. JACC CVI 2022

PCI pacientů s 3VD/kmenem ACS „odmítnutých“ kardiochirurgem po posouzení heart týmem: OPTIMUM

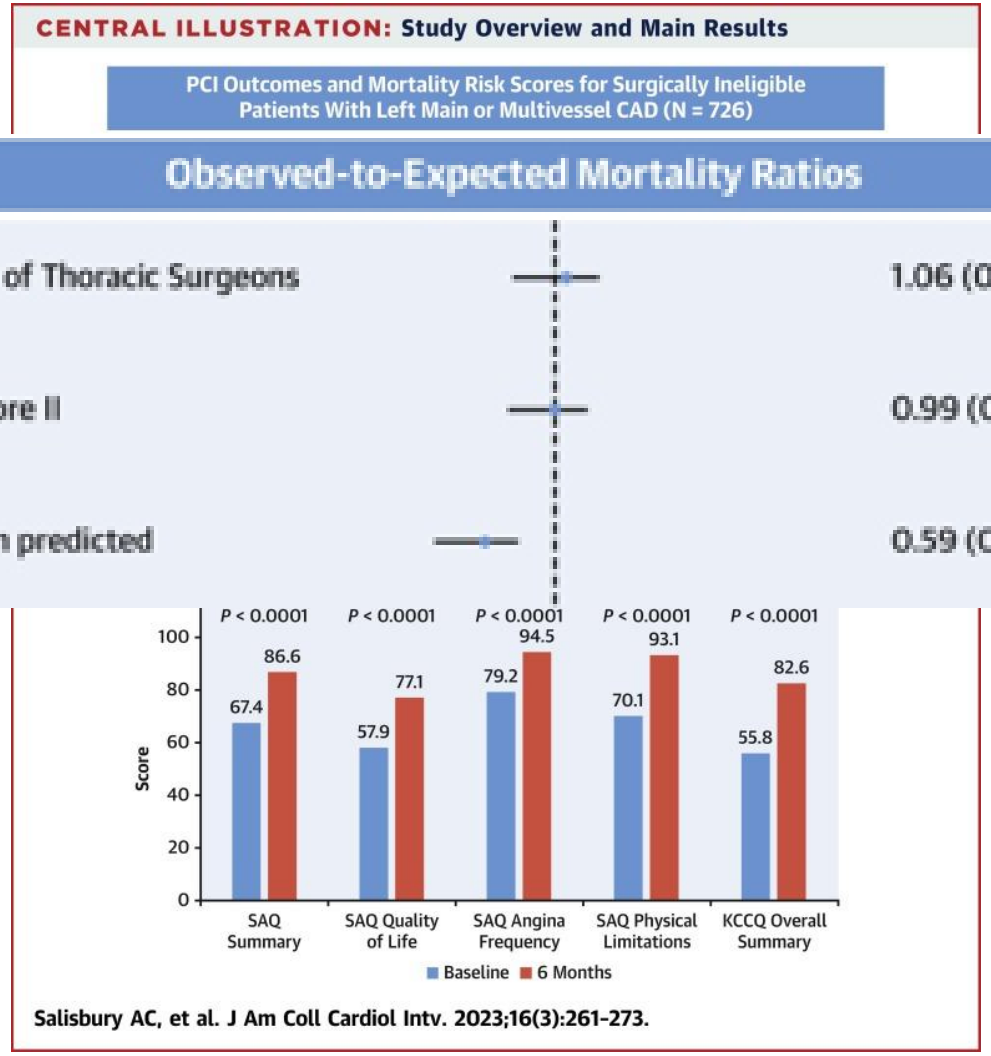


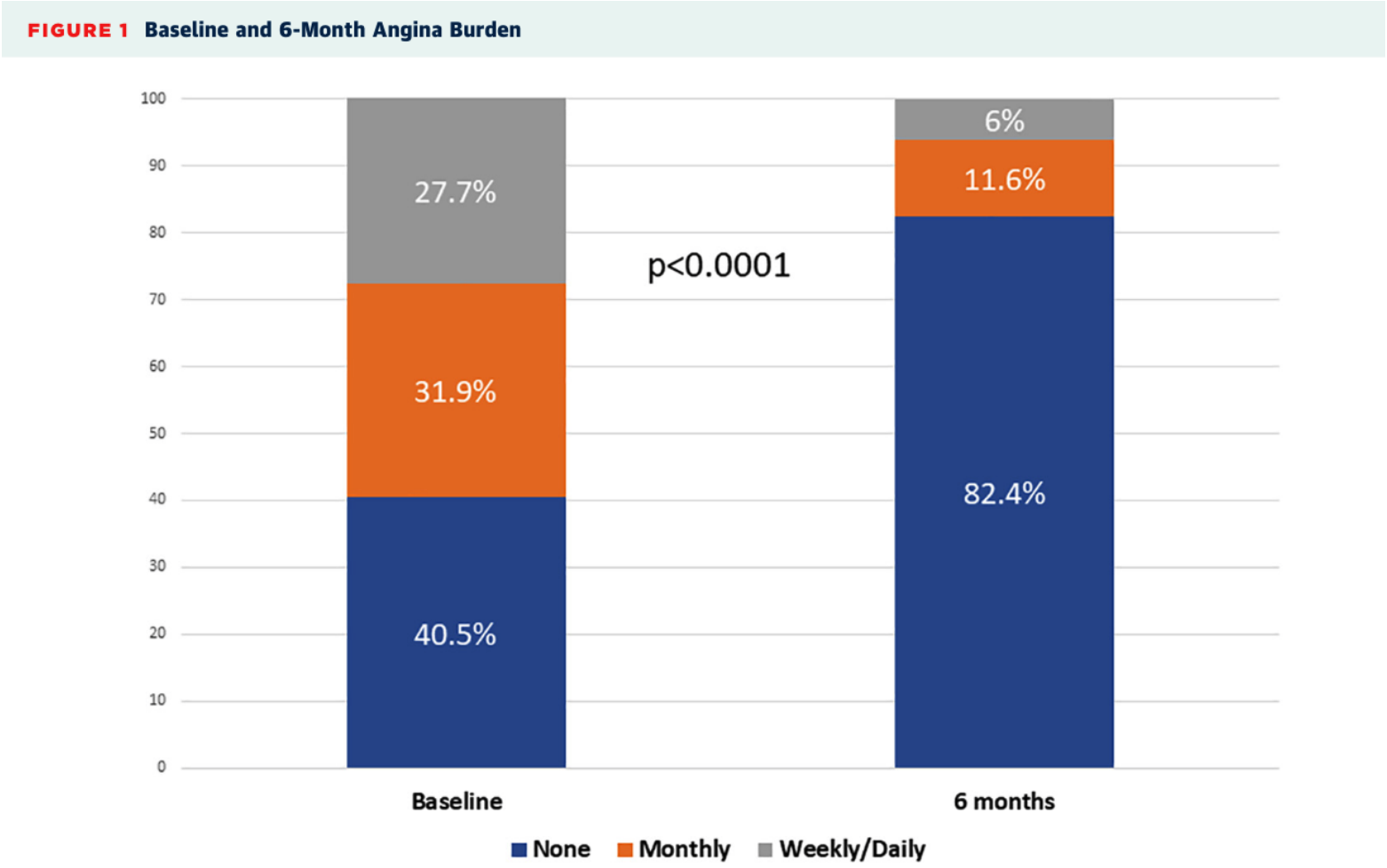
TABLE 3 Procedural Complications and Mortality (N = 726)

Procedural complications	
Coronary perforation	31 (4.3)
Pericardial effusion	13 (1.8)
Hemodynamically significant pericardial effusion	9 (1.2)
Clinical periprocedural myocardial infarction	11 (1.5)
No reflow	9 (1.2)
Emergency cardiac surgery	4 (0.6)
Access site hematoma	36 (5.0)
Non-access site bleeding	31 (4.3)
Mortality	
30-d or in-hospital death	41(5.6)
In-hospital death	22 (3.0)
Death within 30 d (out of hospital)	19 (2.6)
Cardiovascular in-hospital or 30-d death	28 (82.4)[a]
Death within 6 mo	89 (12.3)

*9.8%

- Syntax skóre 32.4±12.2 (45% >33)
- rSSS ≤8 - 34%, (avg 15 ± 11.7)
- 20.3% CTO PCI (80% úspěšnost)

OPTIMUM: QoL po PCI u pacientů odmítnutných kardiochirurgem – Angina pectoris



- klinicky významné zlepšení u ~70% pacientů

Salisbury et al, JACC Interv 2023

UK BCIS Registr a závislost na pohlaví

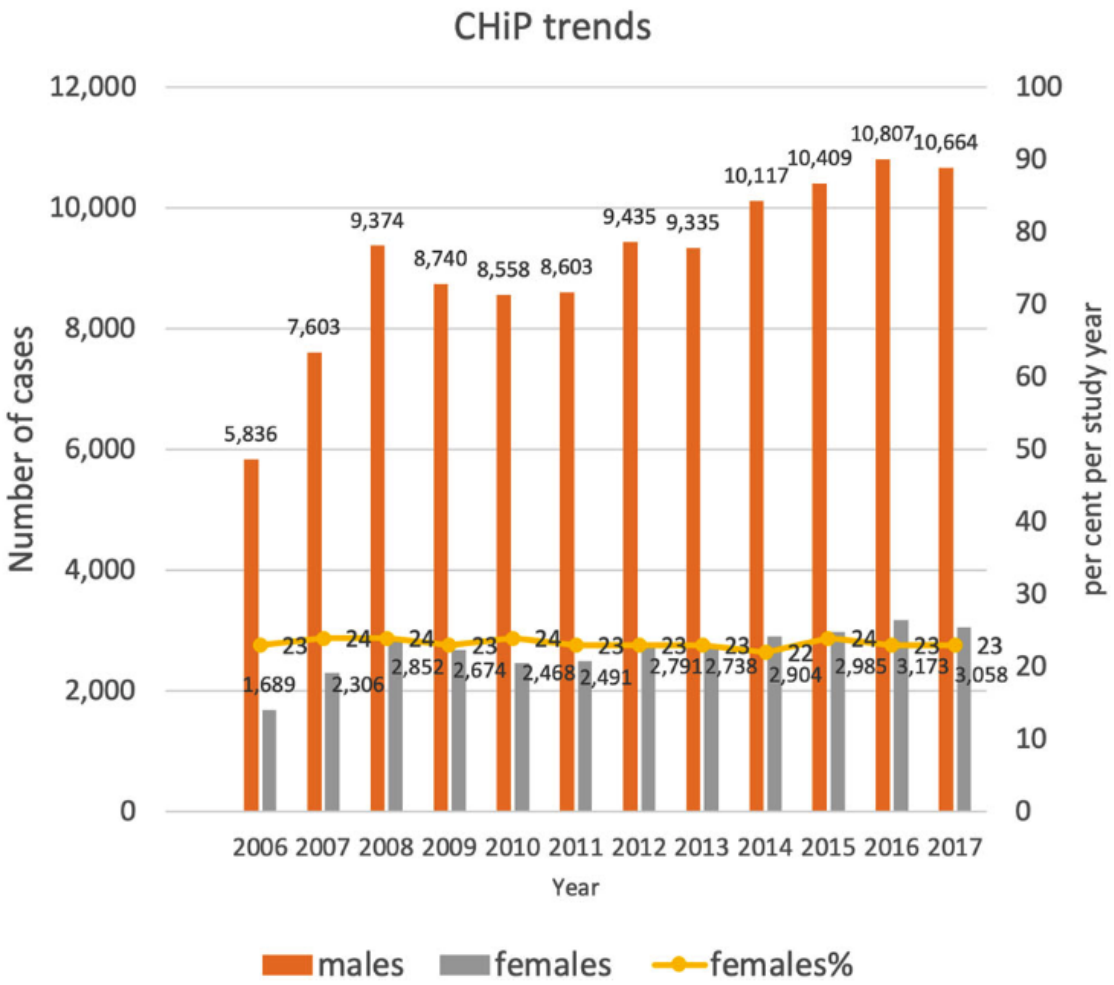


TABLE 3 Adjusted odds of adverse outcomes post CHiP in patients with stable angina (reference, males)

	Odd ratio	95% confidence interval	*p* value
Death	1.78	1.4–2.2	0.001
Bleeding	1.99	1.72–2.30	0.001
MACCE	1.23	1.09–1.38	0.001

Shamkhani et al Catheter CVI 2022

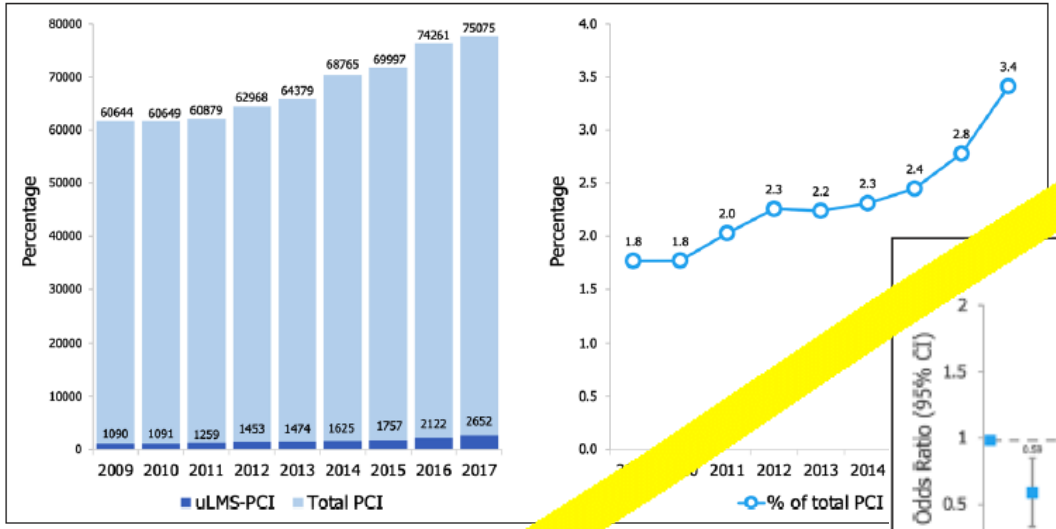
Circulation: Cardiovascular Interventions

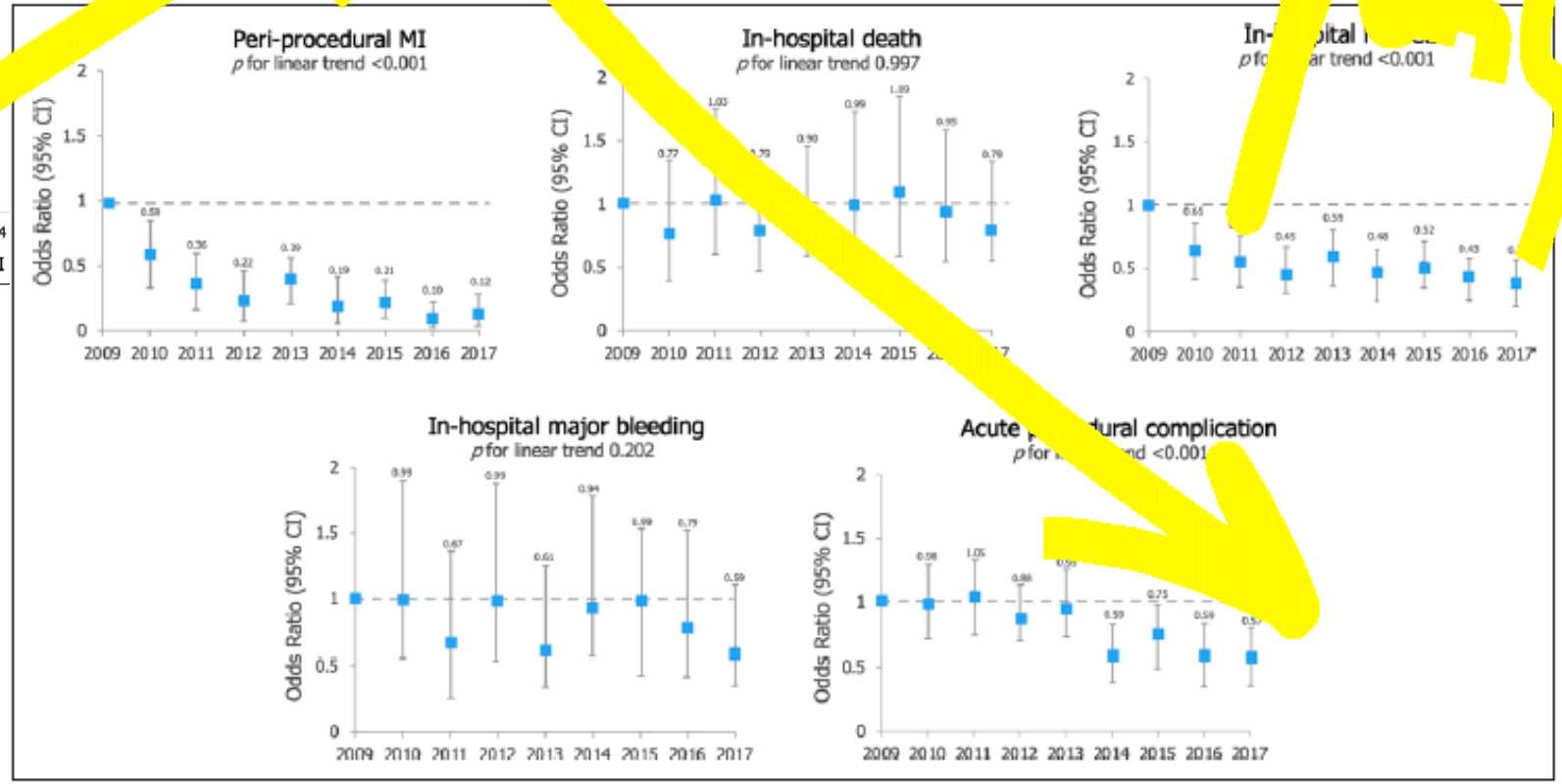
ORIGINAL ARTICLE

Temporal Trends in In-Hospital Outcomes Following Unprotected Left-Main Percutaneous Coronary Intervention: An Analysis of 14522 Cases From British Cardiovascular Intervention Society Database 2009 to 2017

Tim Kinnaird, MD; Sean Gallagher, MD; Vasim Farooq, PhD; Majd Protty, PhD; Liam Back, MD; Peadar Devlin, MD; Richard Anderson, MD; Andrew Sharp, MD; Peter Ludman, MD; Samuel Copt, PhD; Mamas A. Mamas, DPhil; Nick Curzen, PhD

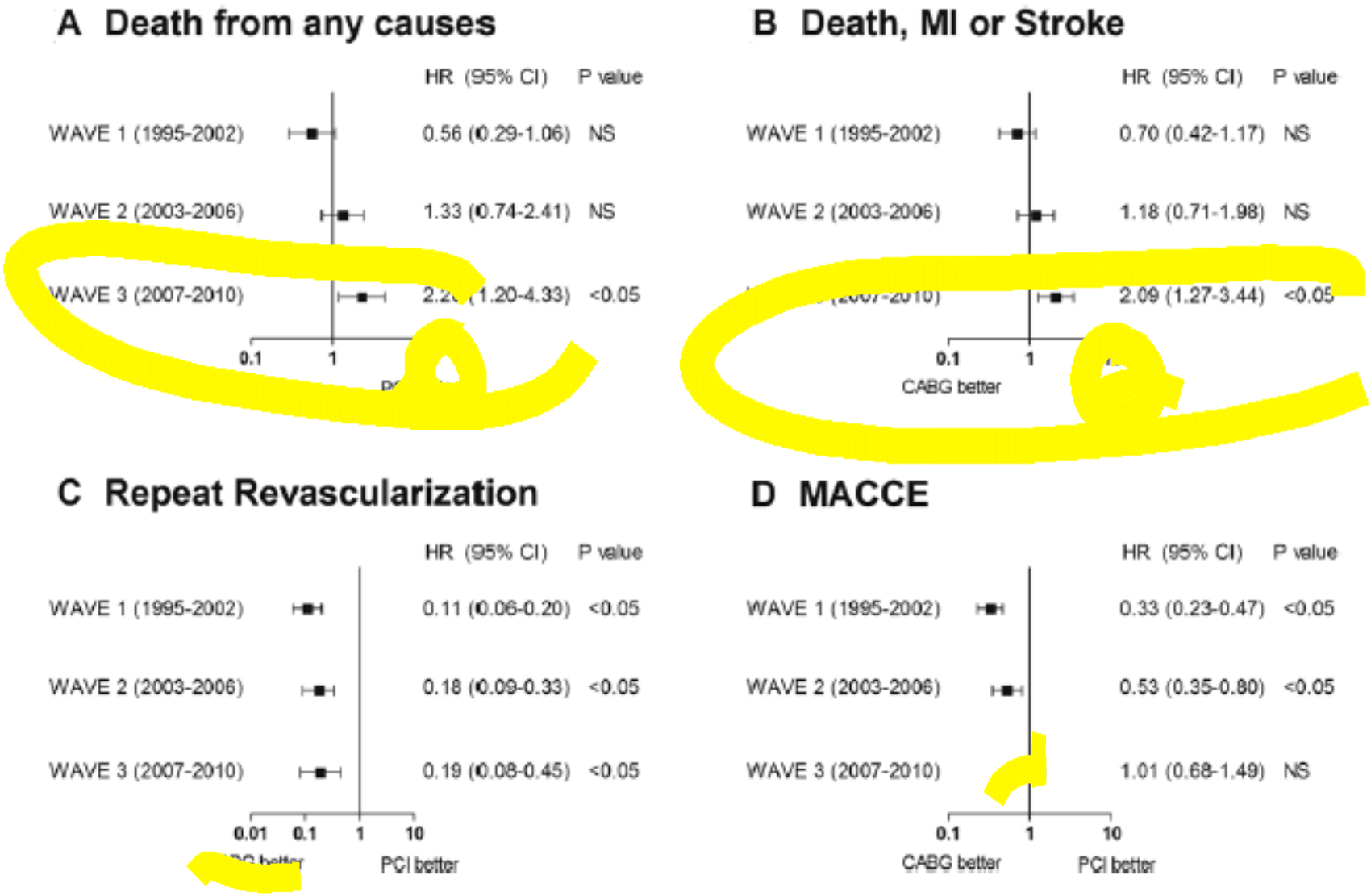
Trendy a nemocniční komplikace v UK (BCIS) 2009-2017





Kinnaird et al. Circ CVI 2023

CABG vs. PCI



Park et al. Circ Cardiovasc Interv. 2015

Metaanalýza 20 randomizovaných studií s IVUS/OCT-guided PCI vs angio-guided PCI ESC kongres 2023

Conclusions

The present network meta-analysis from 20 RCTs in 12,428 pts with follow-up ranging from 6-60 months demonstrates that:

- Compared with angiography-guided PCI, IVI-guided PCI with OCT or IVUS reduces **TLF by 31%**, driven by 46%, 20%, and 29% reductions in cardiac death, TV-MI, and TLR respectively
- IVI-guided PCI also reduces **stent thrombosis by 52%**, all MI by 18%, and **all-cause death by 25%**

Shrnutí
Koronární intervence u křehkého pacienta = CHIP

- **Otázka standardního posouzení křehkosti pacientů..**
- **CHIP PCI je relativně bezpečná a efektivní, riziko komplikací je vyšší, a to zvláště u žen.**
- **Se stárnutím populace a lepším instrumentáriem i technikami PCI a možnostmi MSP se zvyšuje počet CHIP PCI.**
- **Intervenční kardiologové MUSÍ myslet na využití IVUS/OCT.**
- **Vždy se jedná o vysoce individuální přístup po diskusi v rámci Kardiotýmu a s ohledem na přání pacienta.**
- **KAZUISTIKA**

INTERNÍ KARDIOLOGICKÁ KLINIKA
FN BRNO a LF MU

Žena, 90 let

Otakar Boček

Deklarace konfliktu zájmů

	Nemám konflikt zájmů	Mám konflikt zájmů	Specifikace konfliktu (vyjmenujte subjekty, firmy či instituce, se kterými Vaše spolupráce může vést ke konfliktu zájmů)
Zaměstnanecký poměr	☑	☐	
Vlastník / akcionář	☑	☐	
Konzultant	☑	☐	
Přednášková činnost	☑	☐	
Člen poradních sborů (advisory boards)	☑	☐	
Podpora výzkumu / granty	☑	☐	
Jiné honoráře (např. za klinické studie či registry)	☑	☐	

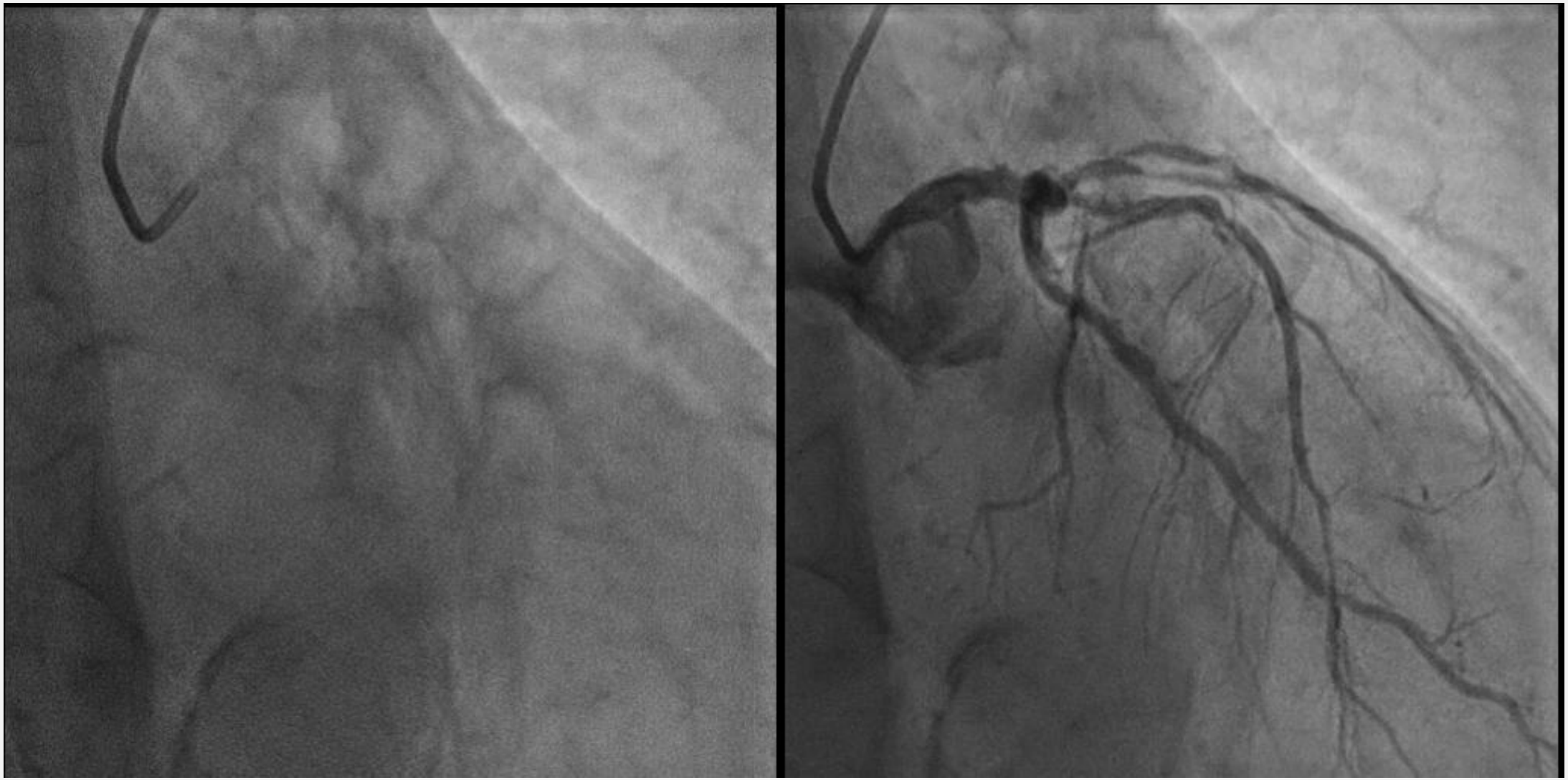
Žena, 90 let

- 155 cm / 52 kg … BMI 21.6

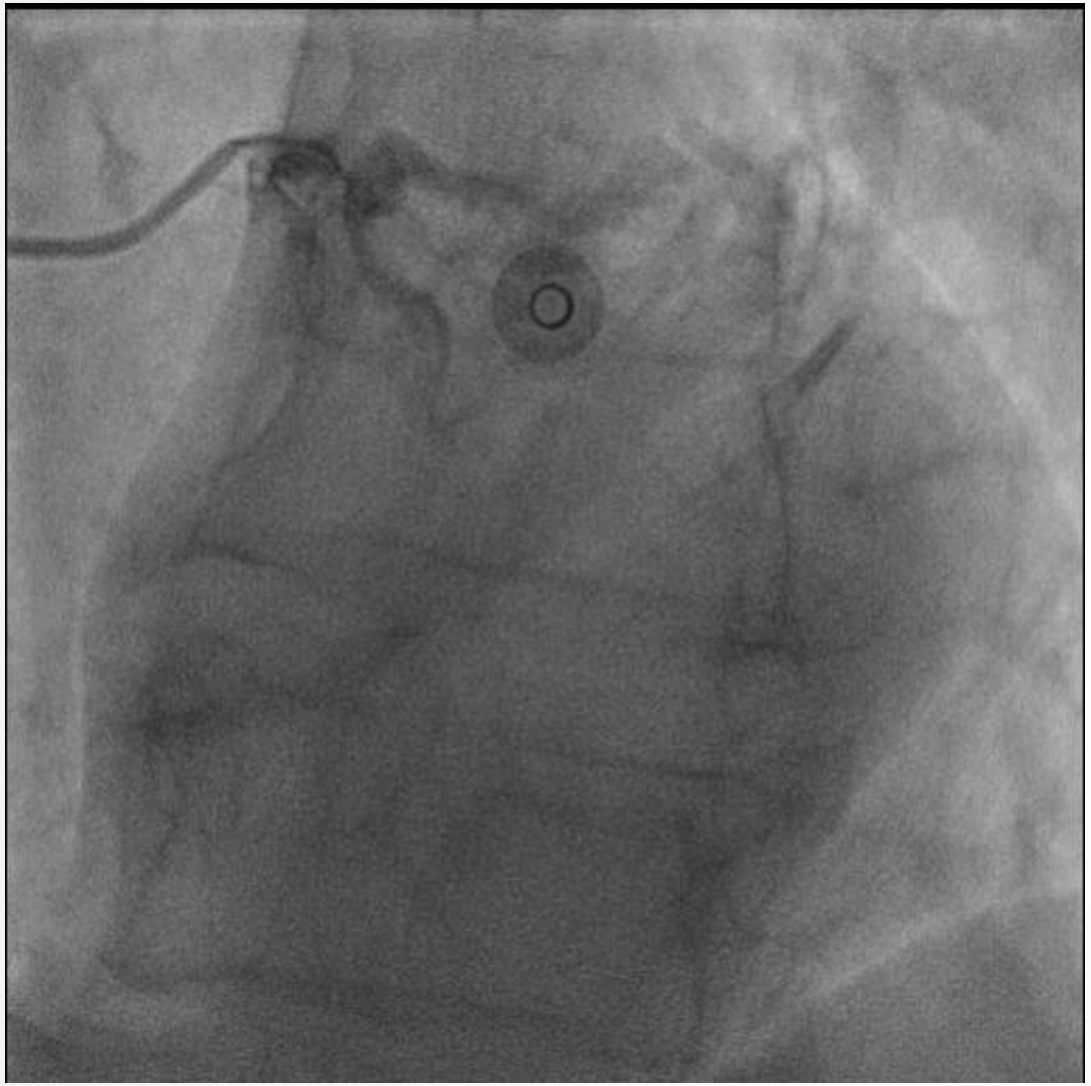
- OA:
  - hypertenzní nemoc
  - hyperlipoproteinémie
  - chronická renální insuficience
  - chronická bronchitida
  - ateroskleróza precerebrálních tepen v dok., st.p. TIA a.a.
  - chronická atrofická gastritida
  - vertigo vertebrogenně cévní etiologie
  - Vertebrogenní algický syndrom, osteoporóza
  - chronická žilní insuficience

- DG:
  - 29.6.2023 hospitalizace v sektorové nemocnici pro NSTEMI IL
  - 30.6.2023 odeslána k SKG do nemocnice Zlín

SKG nem. Zlín 30.06.2023



SKG nem. Zlín 30.06.2023



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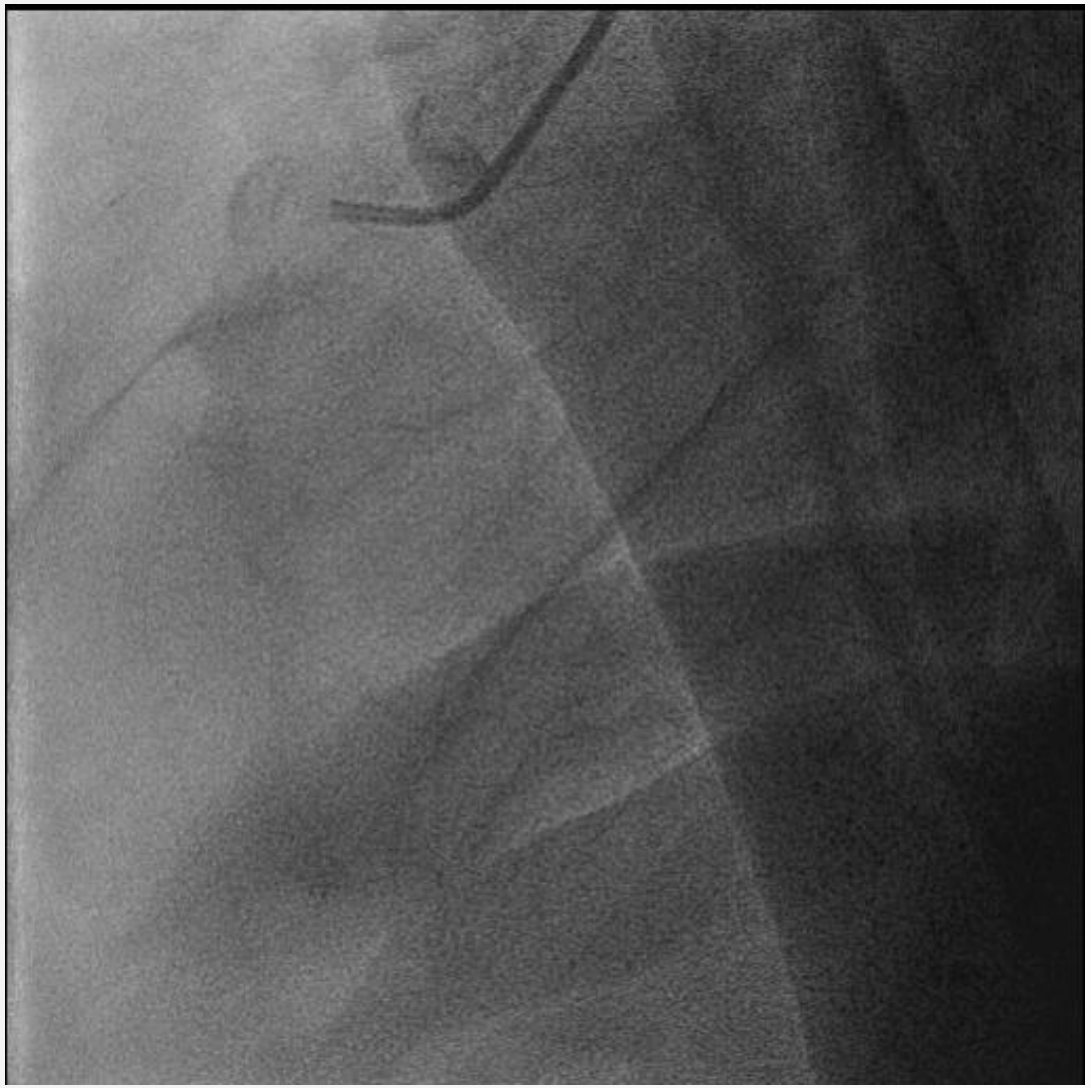
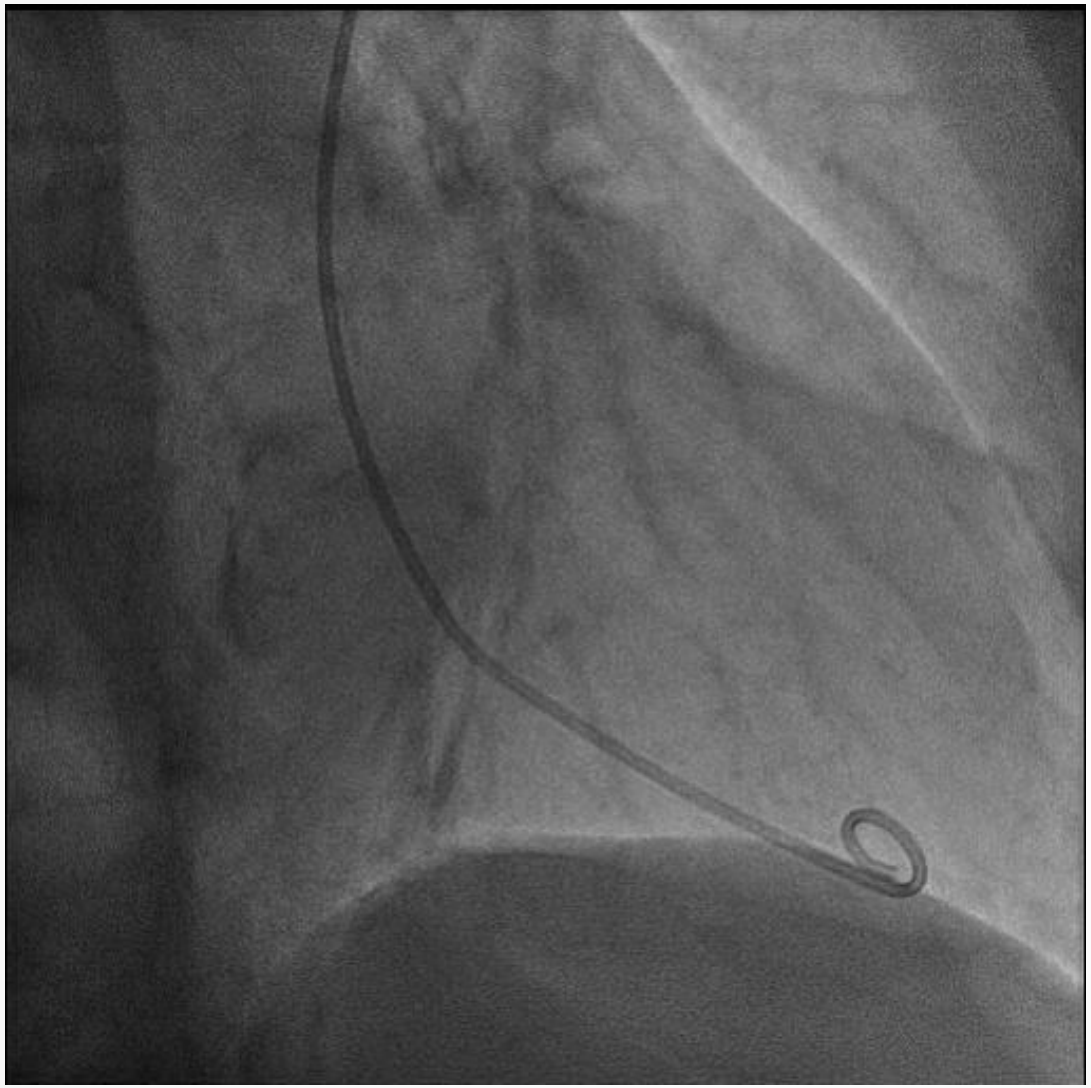


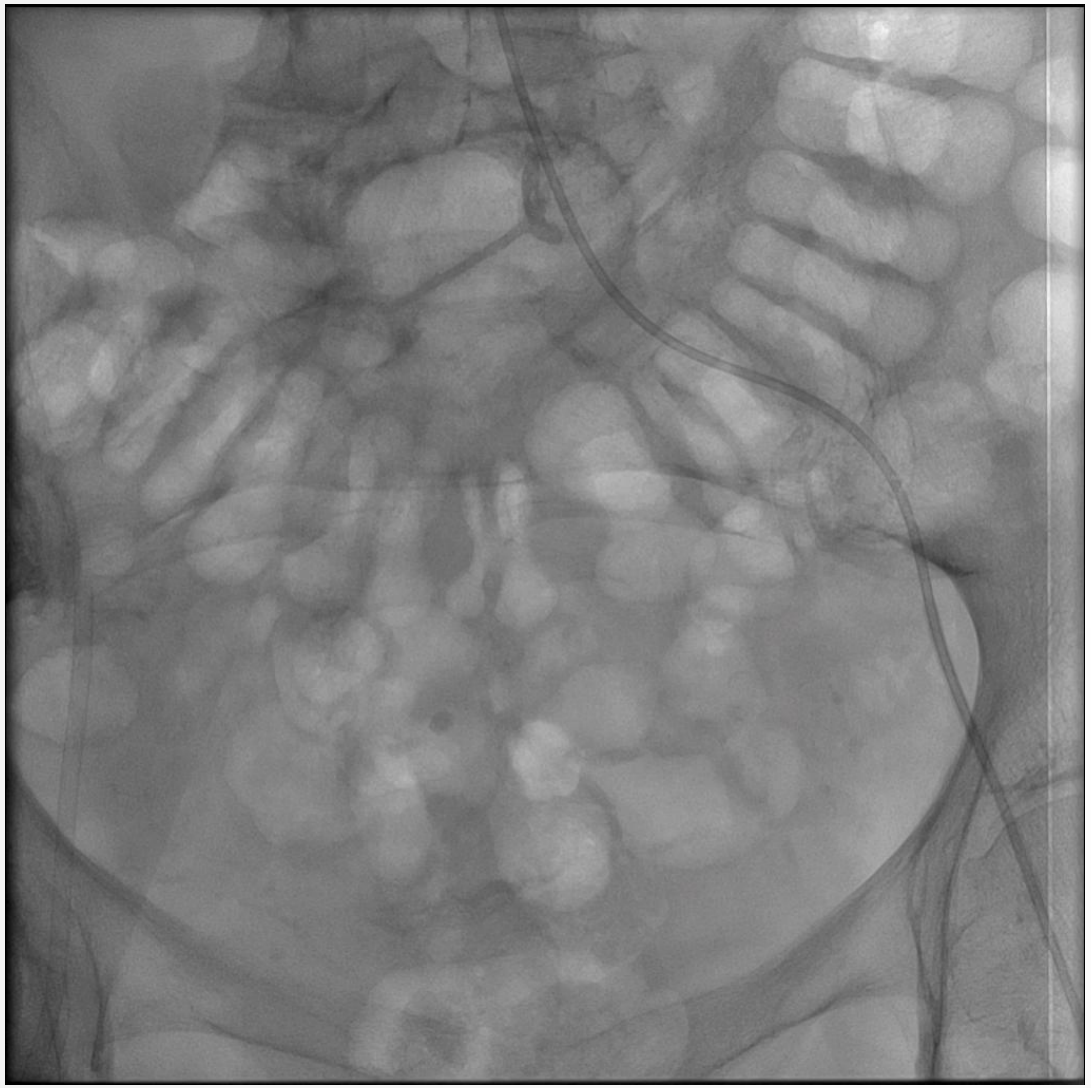
SKG nem. Zlín 30.06.2023



Konzultace Heart Teamu

SKG v nem. Zlín:	- 90% stenóza distálního kmene ACS - 80% stenóza proximální RIA, 90% RD - 50% RC - 50% stenóza střední ACD - EF LK dle echokardiografie 43%
Heart Team:	- Konzultována kardiochirurgie a IKK FN Brno - Indikace PCI distálního kmene se zálohou MSP - 30.6.2023 překlad na IKK FN Brno
Komplikace před PCI:	- Hospitalizace komplikována rozvojem hyperaktivního deliria - Dexdor bez efektu, zklidněna na minimální dávce Propofolu

High risk PCI dist. ACS-RIA 01.07.2023



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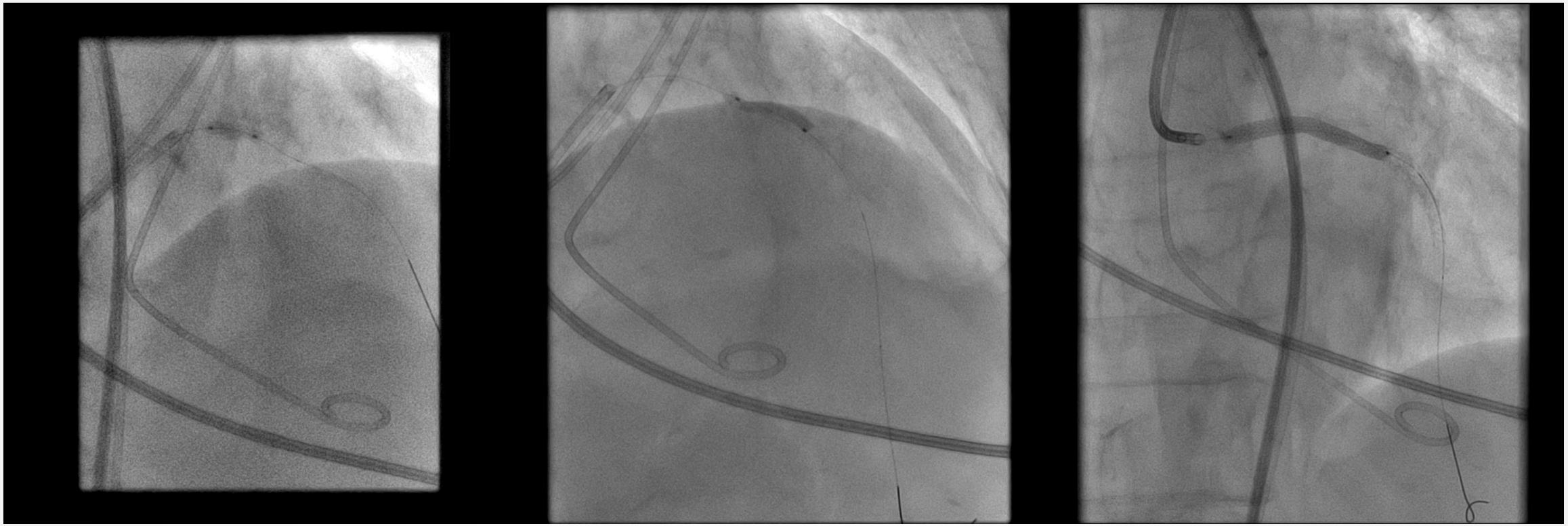

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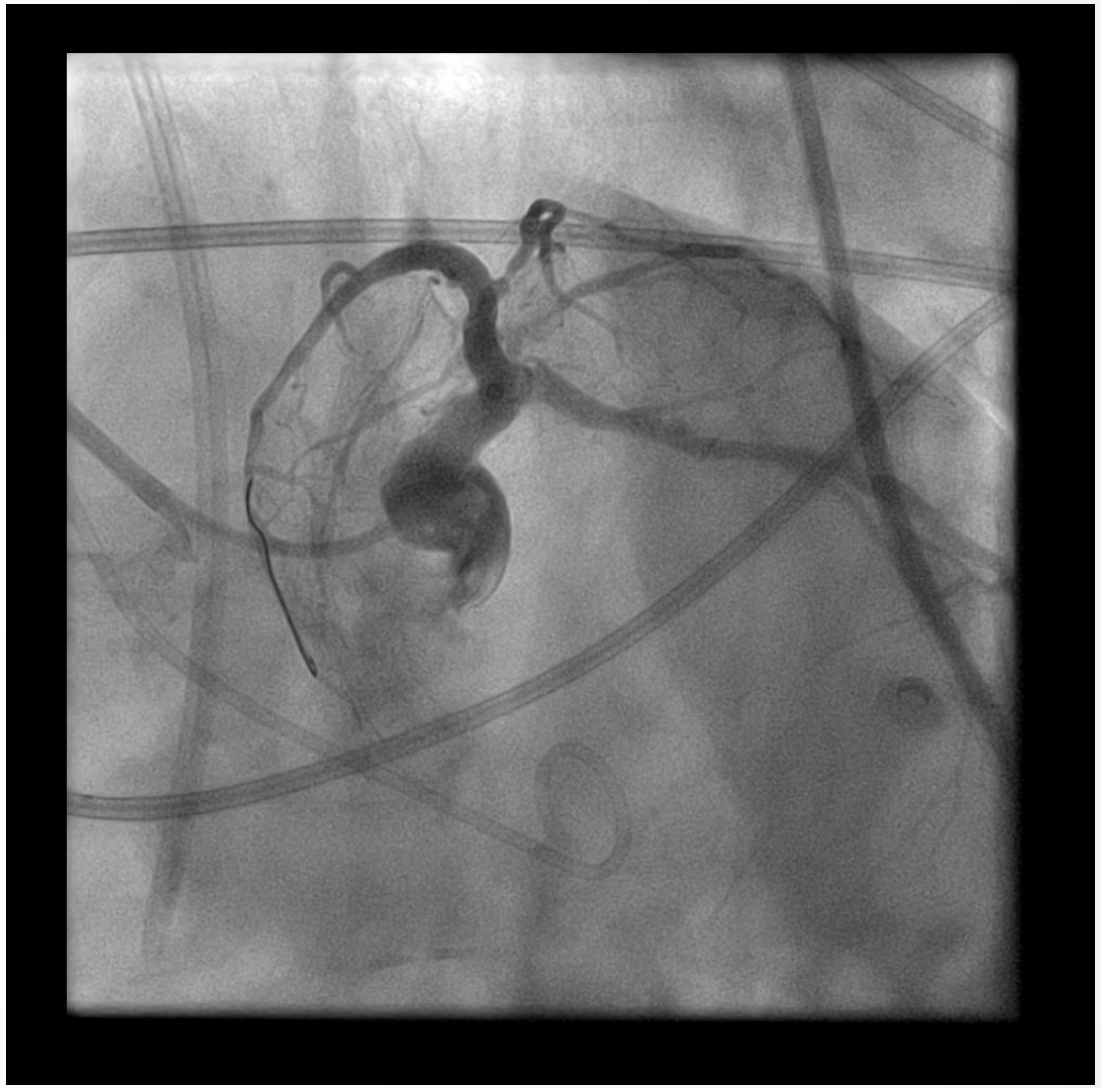

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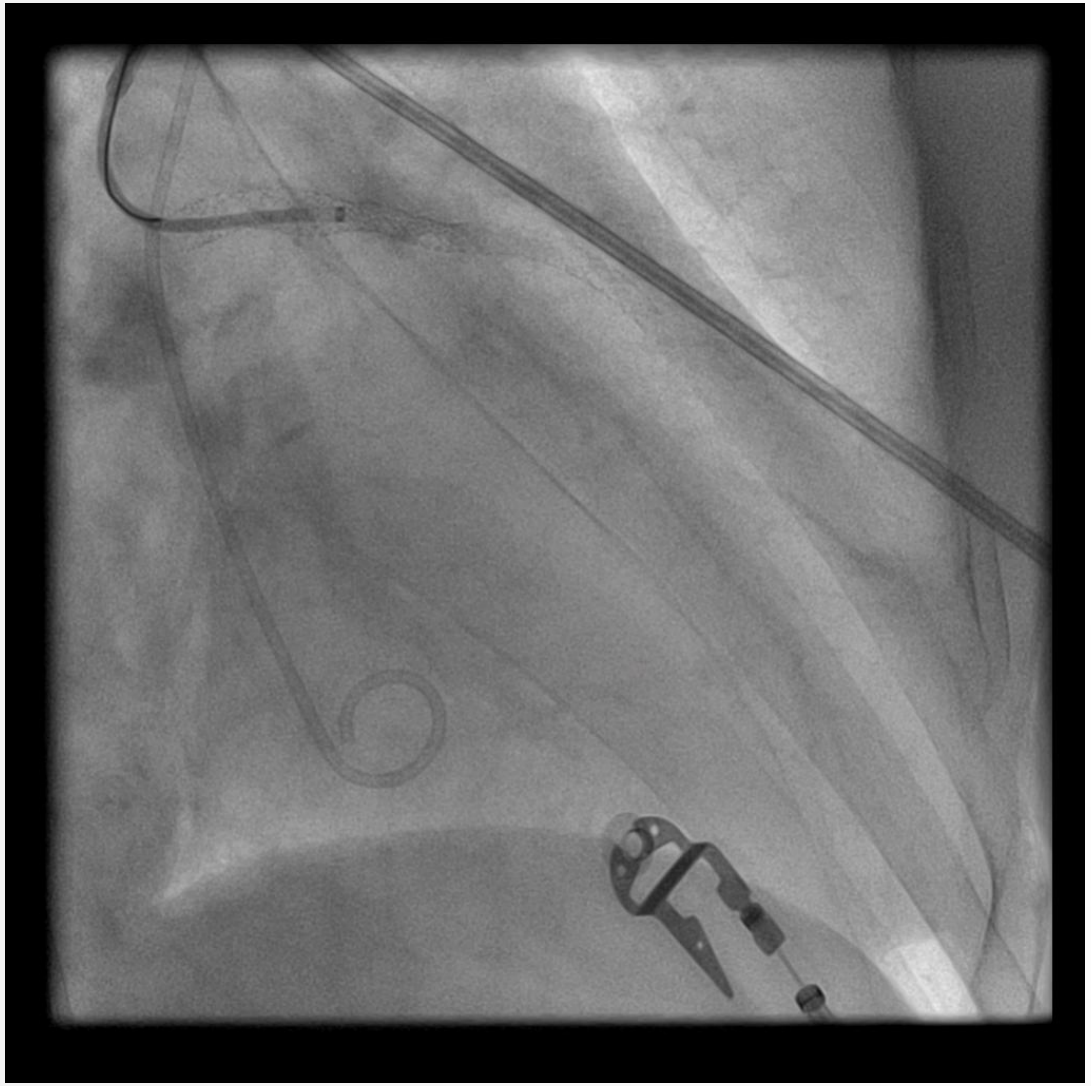

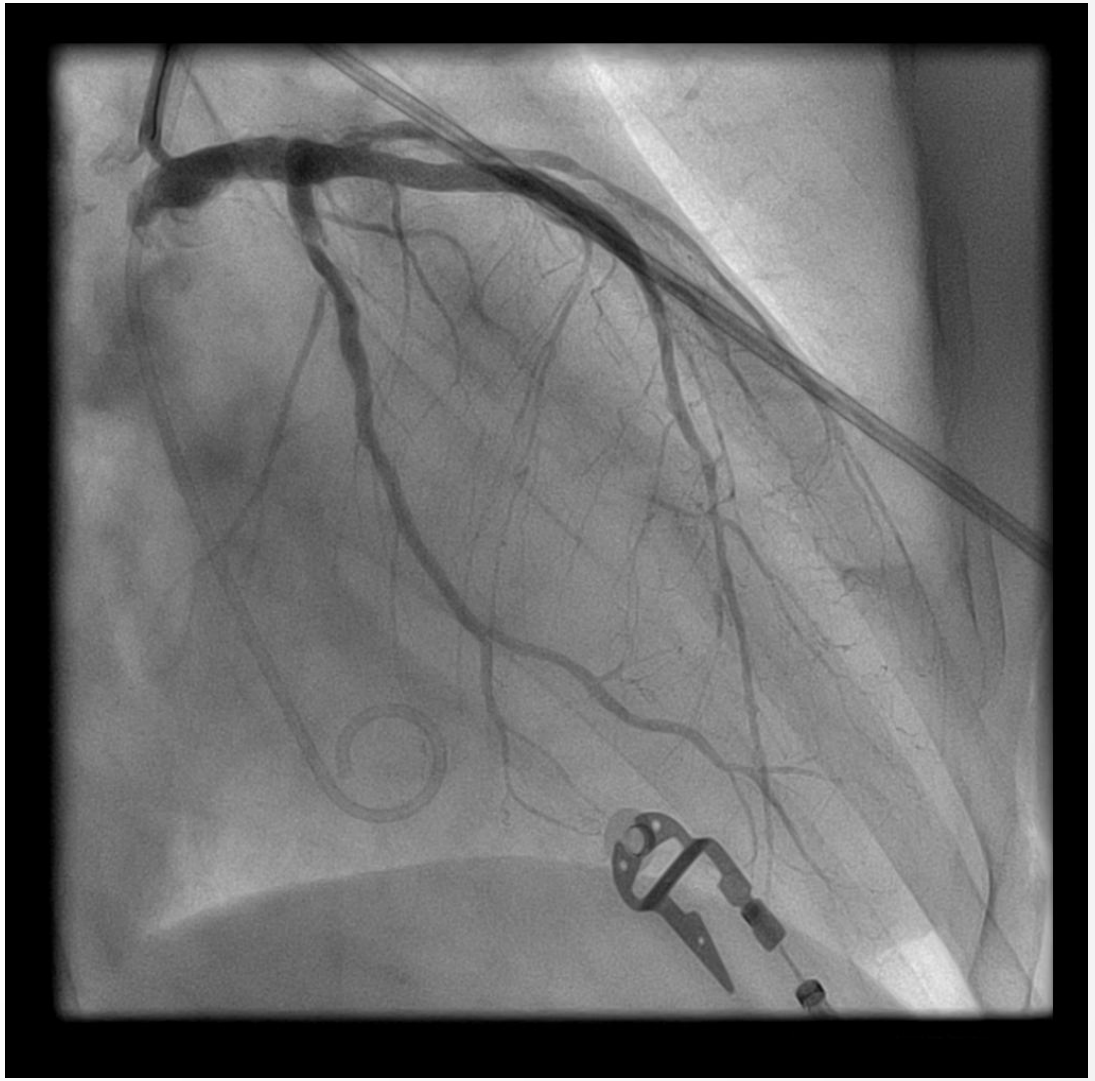

Komplikace v dalším průběhu

Lokální komplikace:

- Pulzující rezistence na PHK a v pravém třísle
- UZ verifikováno PSA na a. radialis i na AFC
- Manuální komprese
- PSA v třísle dle UZV plně trombotizováno
- PSA na a. radialis – přetrvává parciální PSA

Celkové komplikace:

- Anémie normocytární, normochromní
- HGB 131..104 g/l , Ery- 4,04…3,21 10^{12}/l, HTK- 0,39.. 0,31

Výsledek:

- 4.7.2023 pacientka propuštěna ve stabilizovaném stavu do domácího ošetření

Děkuji za pozornost.