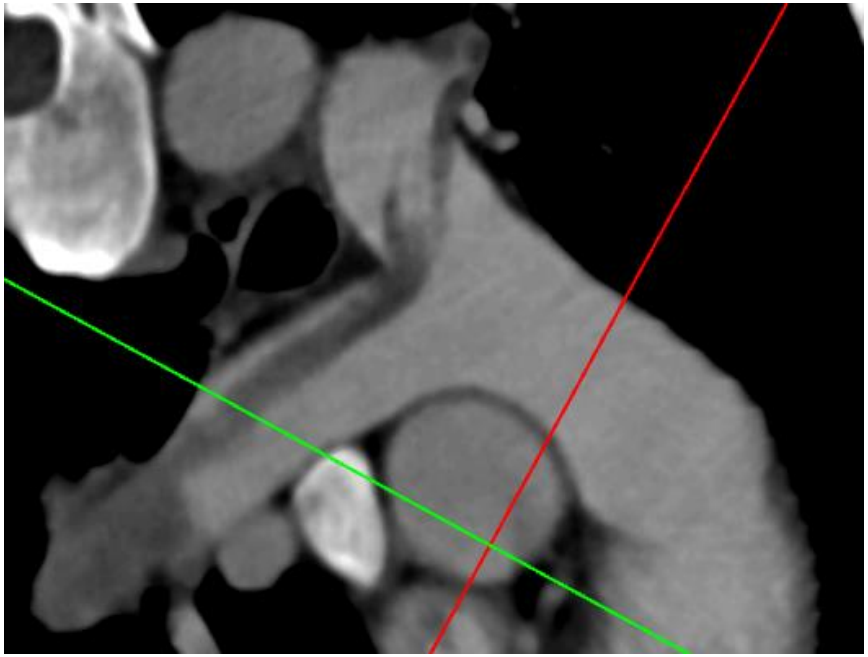


MECHANICKÁ TROMBEKTOMIE SYSTÉMEM LIGHTNING FLASH

Viktor Kočka, Josef Kroupa za celý PERT tým

Kardiocentrum FNKV a 3.LF UK

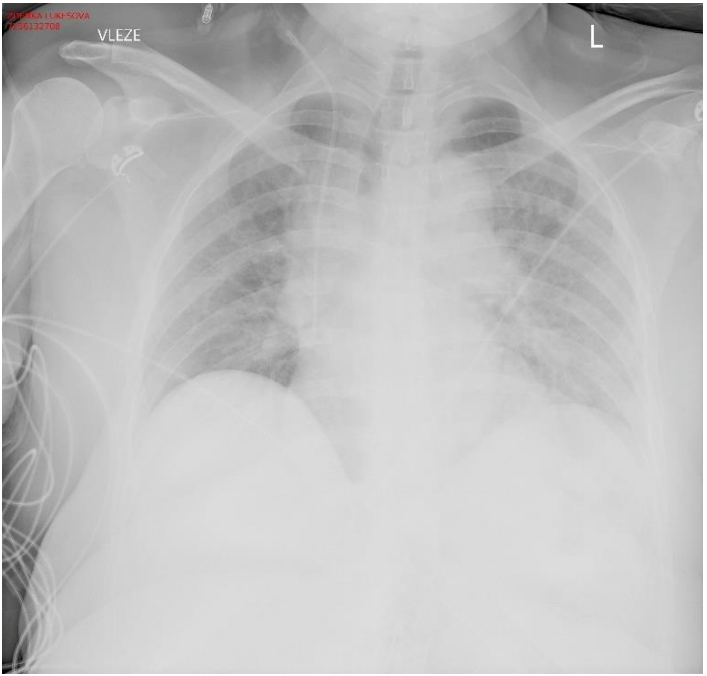
Praha

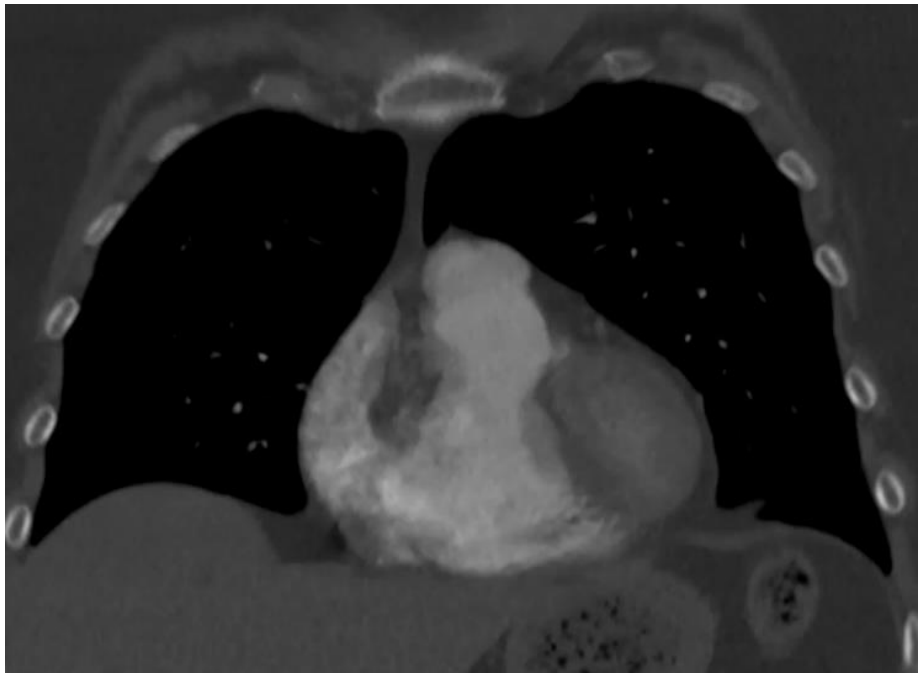
Já, MUDr. Viktor Kočka, deklaruji, že:

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

Pacientka XY 09.03.2025

52 letá žena s anamnézou léčby Hypertenze, Dyslipidemie, Revmatoidní artitidy a Depresivního syndromu
Před 4 týdny podstoupila neurochirurgickou OP v MNÚL pro invazivní meningiom s radikálním OP řešením bez neurologického deficitu, na kortikoterapii
Přijata večer na JIP nemocnice Teplice pro dušnost NYHA III-IV
Objektivně: 180cm/96kg, puls 160/min., krevní tlak 125/75mmHg u hypertoničky, SpO2 96% na O2 10L/min. maskou
CT prokázalo akutní plicní embolii s cor pulmonale
Léčena heparinem 8000 IU bolus a dále 1500-2000 IU/hod dle APTT



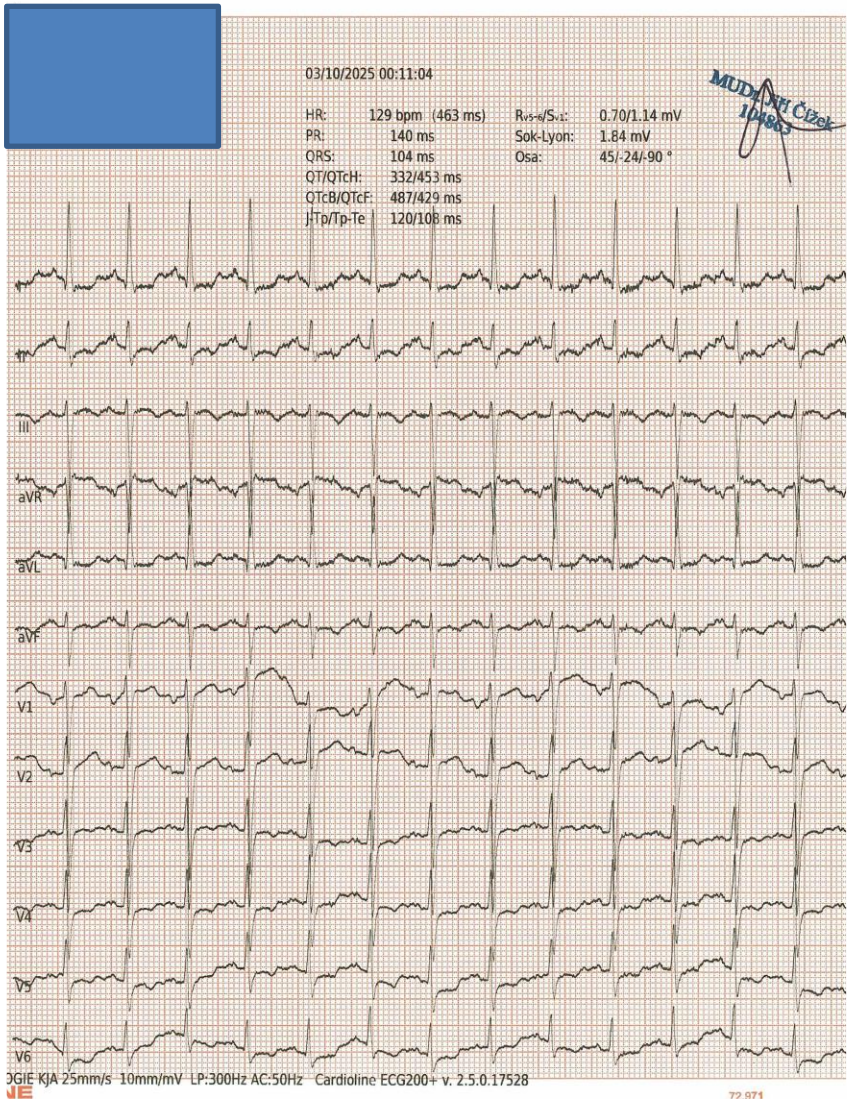


Pacientka XY 10.03.2025

Pro hraniční HD stabilitu a kontraindikaci podání trombolýzy kontaktován PERT tým FNKV.
Překlad na KJ našeho KC – přijata v 01:00 hodin
Vstupně TF 129/min., TKs 120-130 mmHg, na O2 SpO2 93-94%.
Biochemie: laktát 1.7 mmol/L, CRP 59 mg/L, Troponin I 880 ng/L, NT-pro-BNP 329 ng/L
Zaveden CŽK cestou VJI dx. Bez potíží.
ECHO bedside:

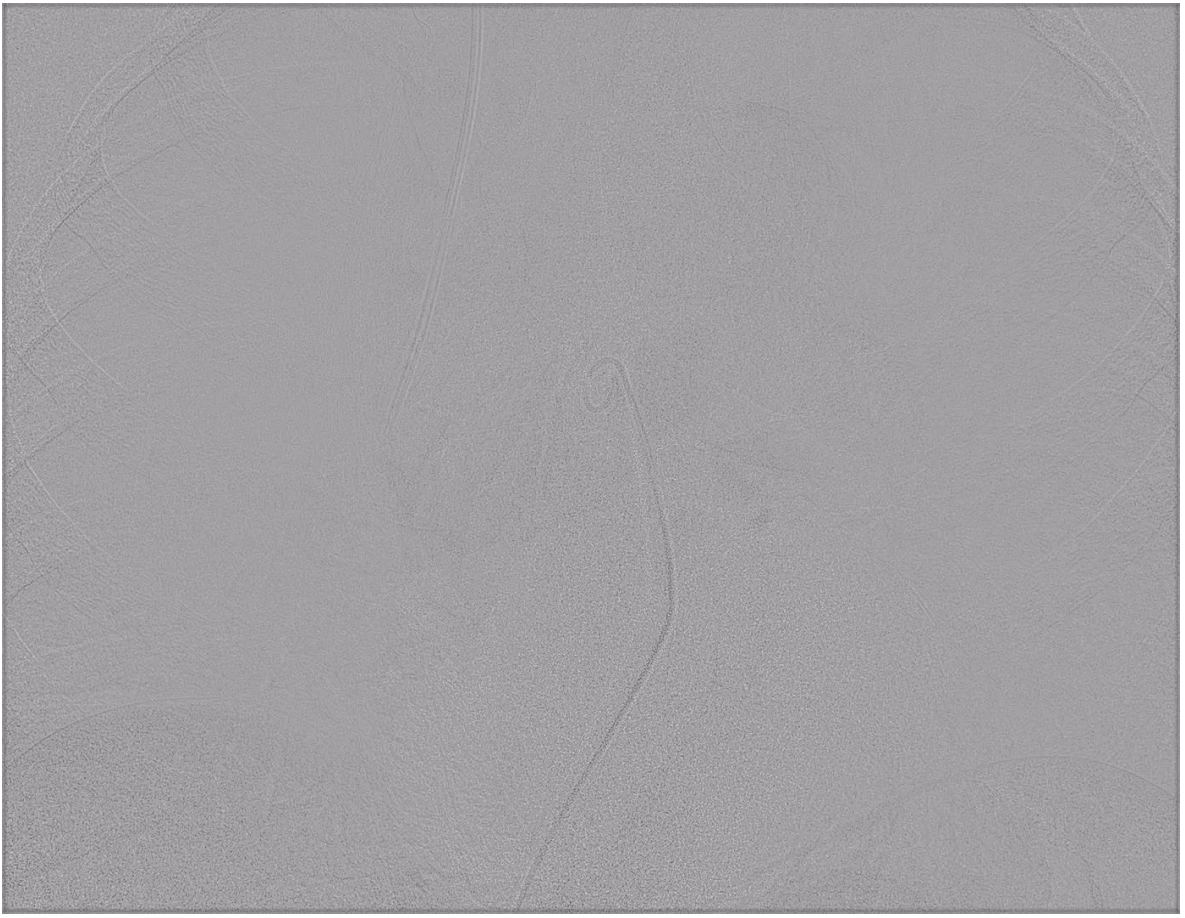
- LVEDD 45mm s normální EF
- RV 50mm v AC4 dysfunkční
- VF bilat bez trombosy

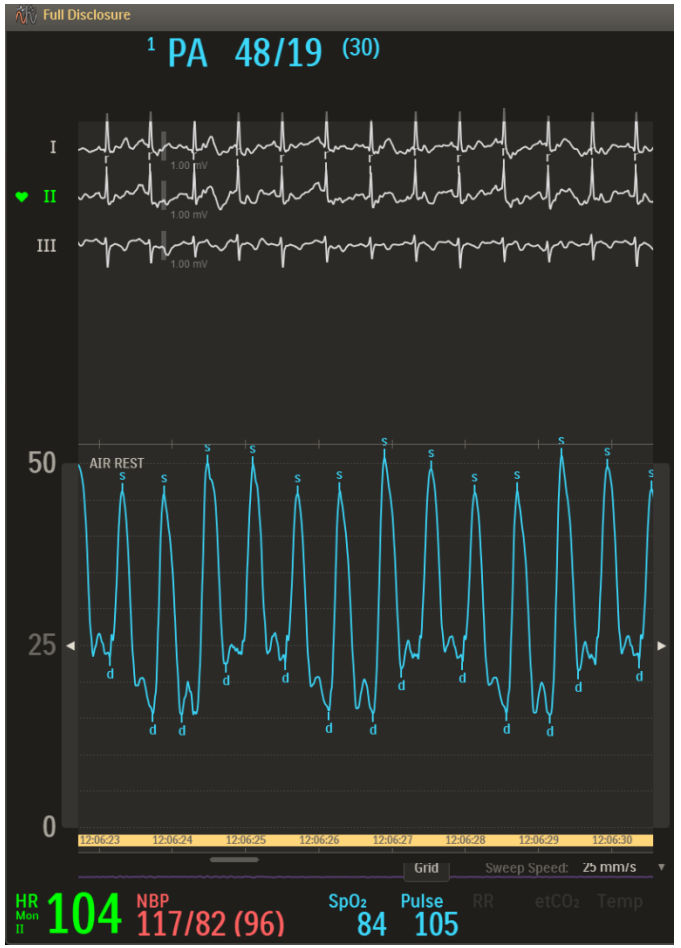
Ráno diskuse PERT týmu, vzhledem k masivní PE a hraničnímu HD stavu indikována mechanická trombektomie



Pacientka XY 10.03.2025

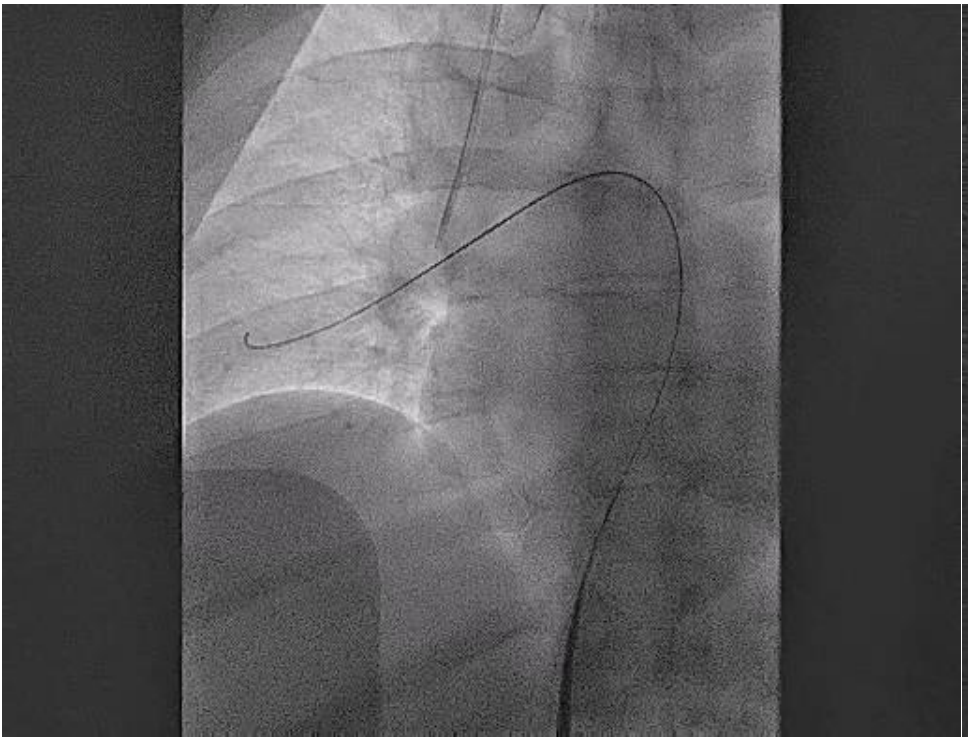
Na sále pod UZ punkce VF l.dx., založen steh ProStyle a opatrně s minimem manipulace zaveden pigtail katetr do plicnice

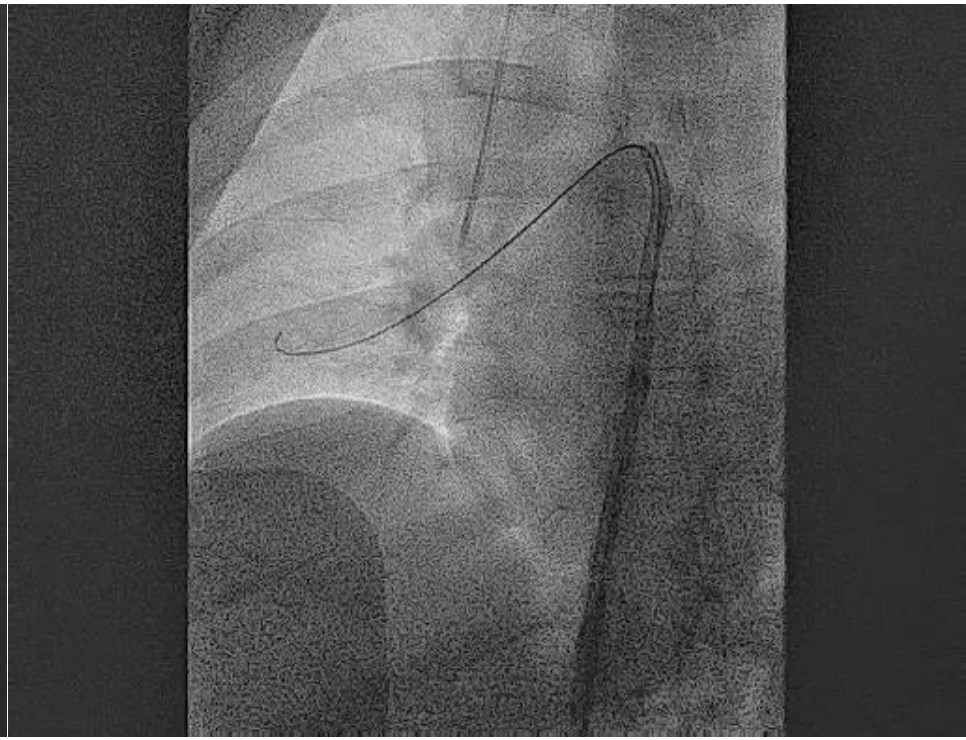




Pacientka XY 10.03.2025

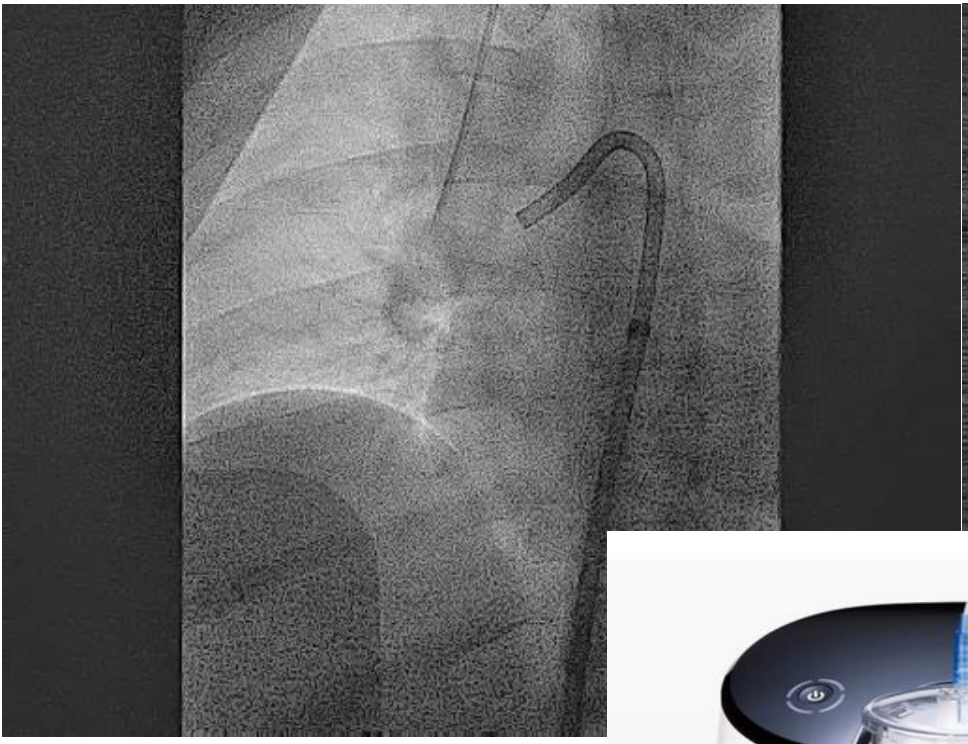
- do RPA přes MP katetr zaveden tuhý vodič Amplatz SS 1cm tip
- do PA zaveden dlouhý 16Fr sheath Cook (CAVE systém nelze zavést do 16Fr sheath Sentrant..)
- Do RPA zaveden katetr Lightning Flash 16Fr

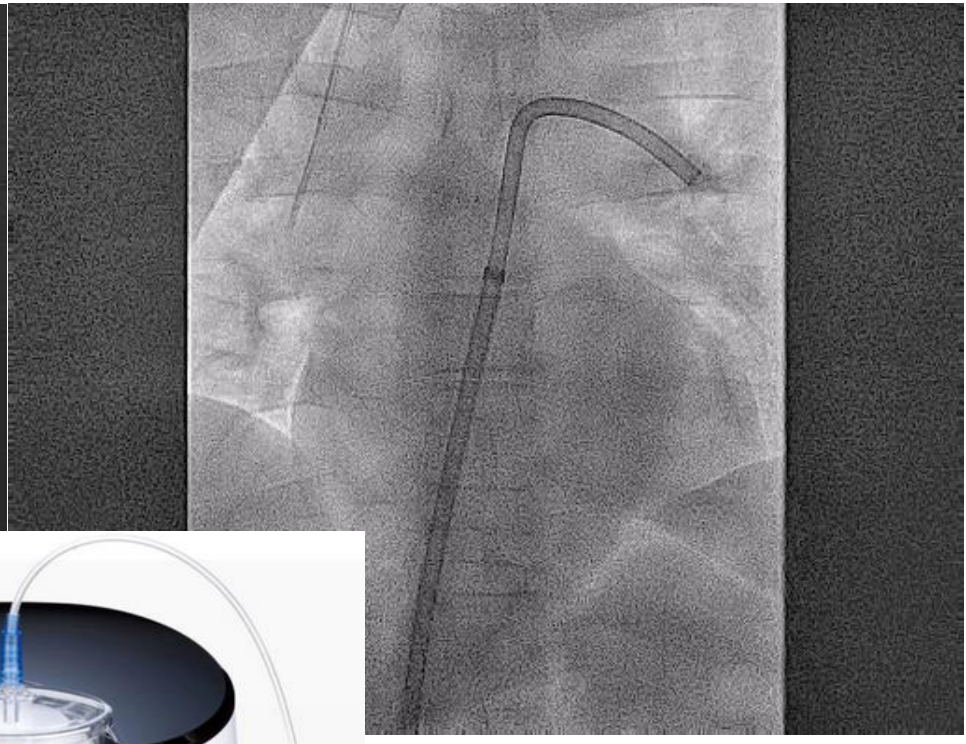




Pacientka XY 10.03.2025

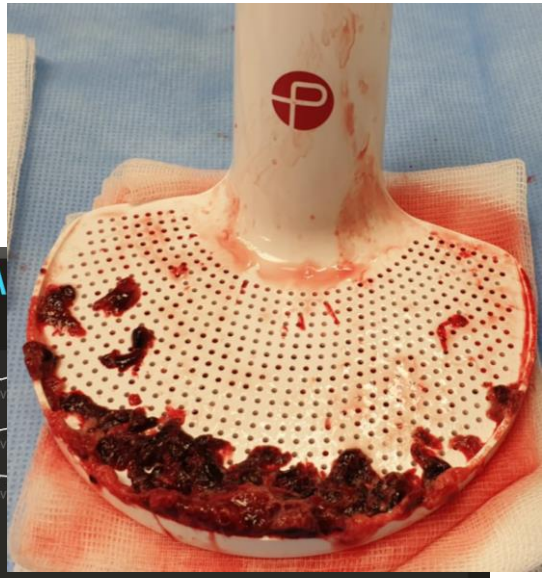
Poté manipulace a odsávání pomocí chytré konsole Penumbra s minimalizací krevních ztrát





Pacientka XY 10.03.2025

Odsáto střední množství trombotických hmot
Krevní ztráty cca 200-300ml
Zlepšení angiografického nálezu
Tlak v plicnici bez větší změny, ale výrazný vzestup SpO2



Pacientka XY 11-12.03.2025

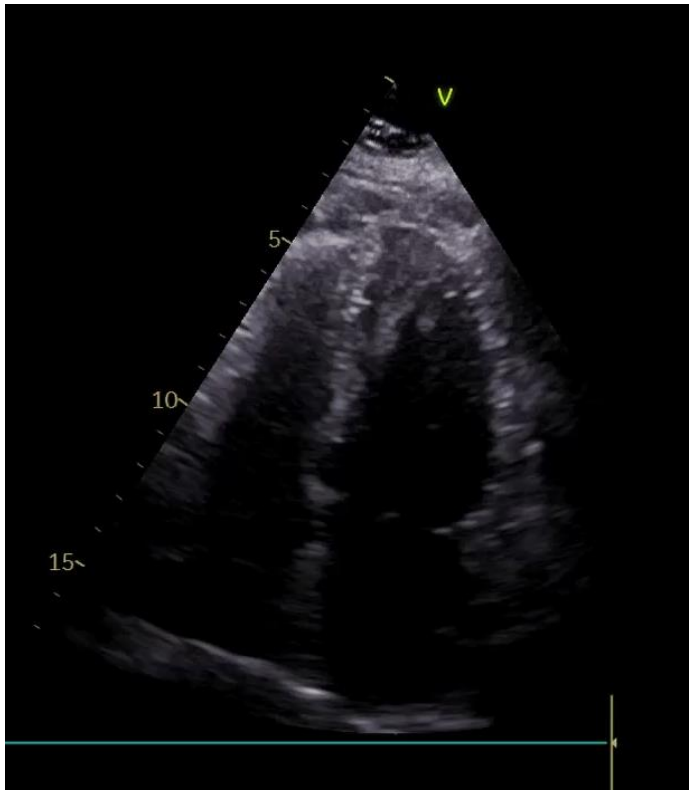
Subjektivně výrazná úleva

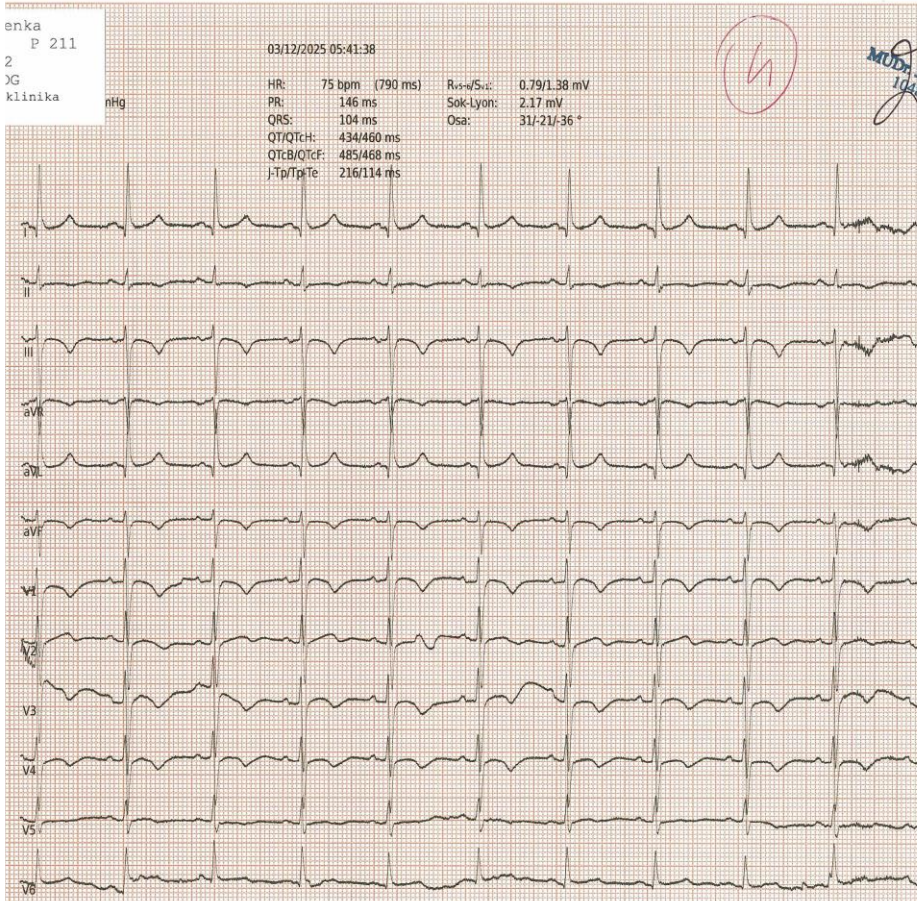
Dále léčba UFH dle APTT. Cévní UZ prokázal trombosu V Fib na PDK a VP+Vfib LDK.

Pokles HGB o 30 g/L s podílem hemodiluce

Zlepšení nálezu na ECHO – PK nyní 40mm v AP4 projekci

Podána první dávka NOAC a překlad zpět do nemocnice Teplice – děkujeme za spolupráci !!





Penumbra – nějaká data?

STRIKE-PE – 51 center v UA a EU, v plánu je analýza až 1500 pacientů

METHODS: STRIKE-PE is a prospective, international, multicenter study that has been expanded to enroll up to 1500 patients with acute PE symptoms of ≤14 days and a right ventricle/left ventricle (RV/LV) ratio of ≥0.9. The primary performance endpoint is the change in RV/LV ratio from baseline to 48 hours postprocedure, and the primary safety endpoint is a composite of major adverse events at 48 hours postprocedure. Secondary endpoints include functional and QoL assessments, performed at baseline and at 90-day follow-up.

RESULTS: The patients had a mean age of 61.2 years, and 53.7% were male. Their PE early mortality risk classification was intermediate low in 9.7% of patients, intermediate high in 84.3%, and high in 6.0%. At 48 hours postprocedure, mean RV/LV ratio significantly decreased from 1.40 at baseline to 0.99 (Δ 26.8%, $P < .001$). Intraprocedural mean systolic pulmonary artery pressure (sPAP) significantly decreased from 51.7 mm Hg before CAVT to 41.3 mm Hg after CAVT (Δ 19.1%, $P < .001$). Six patients (2.0%) experienced a major adverse event (of which 2 were device related) within 48 hours. Median Borg dyspnea score at rest significantly decreased from 4.0 (somewhat severe) at baseline to 0.5 (very, very slight) at discharge (Δ 3.5, $P < .001$). From baseline to 90-day follow-up, the EQ-5D-5L index value for US patients (range, −0.573 [worst health state] to 1 [full health]) improved by a mean of 0.32 ($P < .001$; $n = 216$). Over the same time interval, the extent of daily life affected by PE (from 0% to 100%), as measured by the Pulmonary Embolism Quality of Life Questionnaire (PEmb-QoL), improved by the following mean percentage points: frequency of complaints, 17.7; activities of daily living complaints, 24.4; work-related problems, 37.6; social limitations, 29.7; intensity of complaints, 28.2; emotional complaints, 5.7; and overall, 19.8 ($P < .001$ for each).

CONCLUSIONS: STRIKE-PE patients, treated with CAVT using the Indigo Aspiration System, experienced statistically significant periprocedural improvements in RV/LV ratio, sPAP, and dyspnea, and a low rate of periprocedural major adverse events. In this interim analysis, both generic and disease-specific QoL measures in patients with intermediate-risk or high-risk PE improved at 90-day follow-up after treatment with CAVT. The improvements in EQ-5D-5L index value and overall PEmb-QoL in this patient population exceeded the measures' minimal clinically important differences.

CLINICAL IMPLICATIONS: This periprocedural interim analysis of the STRIKE-PE study, involving 300 patients with intermediate-risk and high-risk PE, demonstrated effectiveness and safety of CAVT as a treatment for acute PE, as well as improvements in dyspnea and QoL. Continued follow-up through 1 year, specifically examining functional and QoL outcomes, will provide better understanding of the overall impact of endovascular therapies for PE beyond acute mortality.

Interim Results (N = 300):[1]

Rapid, statistically significant improvements in RV/LV ratio and sPAP while maintaining safety

RV/LV Ratio Improvement	sPAP Improvement	Low Composite MAE Rate
26.8%	**19.1%**	**2.0%**
(0.40)	(10.4 mmHg)	(6/300)

Lightning Flash Subset Analysis (N = 86)[1, 3]

Median Thrombectomy Time[a]	RV/LV Ratio Improvement	Composite MAE Rate[c]	Transfusion Required before Discharge
23.0 min	**27.8%**	**1.2%**	**0**
[19.0-35.0]	(0.40)[b]	(1/86)[d]	

Penumbra – the clever solution

24 French

16 French