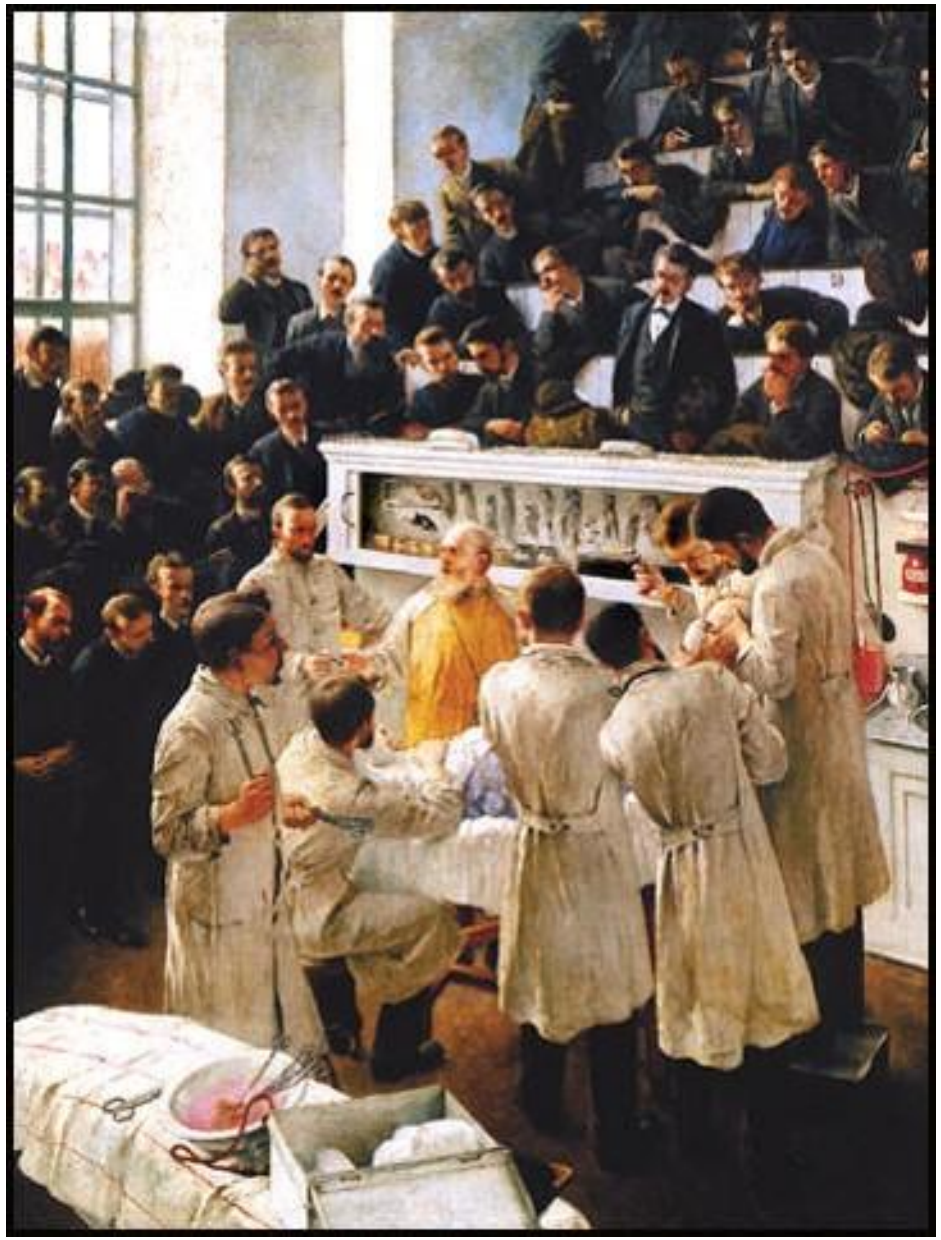
Heart Team - role kardiochirurga



Jiří Malý
IKEM Praha

PCI and TAVR big waves

TAVR Complications

Philippe Généreux, MD

Director, Structural Heart Program, Morristown Medical Center, NJ
Interventional Cardiologist, Hôpital du Sacré-Coeur de Montréal, Canada
Cardiovascular Research Foundation, New York, NY

Morristown
Medical Center
ATLANTIC HEALTH SYSTEM

Complications Post TAVR:
What I am saying to Patients...

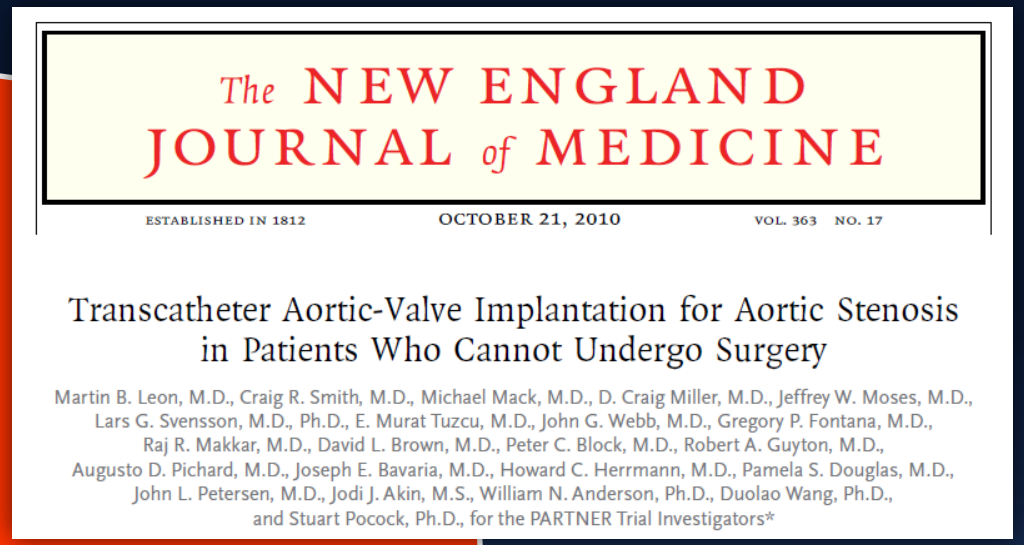
- **Mortality 30d: ~1%**
- **Stroke:~1-3%**
- **Conductions disorders**
  - **PPM: ~5-30% depending of risk factors**
  - **LBBB: ~10-75% depending of risk factors**
  - **New onset A.Fib: ~5%**
- **Para-Valvular Leak: ~5% (Mod-severe)**
- **Vascular Complications/Bleedings: ~5%**
- **Others**

Background (2)

PARTNER 3

- RCT 1:1
- vs. Surgery
- N = 1000 pts

Low Risk

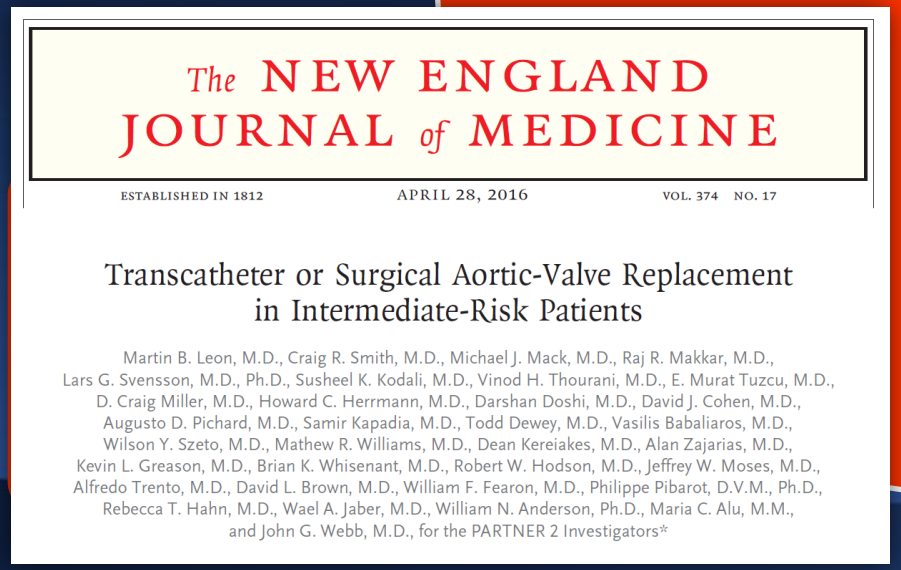


The NEW ENGLAND JOURNAL of MEDICINE

ESTABLISHED IN 1812 OCTOBER 21, 2010 VOL. 363 NO. 17

Transcatheter Aortic-Valve Implantation for Aortic Stenosis in Patients Who Cannot Undergo Surgery

Martin B. Leon, M.D., Craig R. Smith, M.D., Michael Mack, M.D., D. Craig Miller, M.D., Jeffrey W. Moses, M.D., Lars G. Svensson, M.D., Ph.D., E. Murat Tuzcu, M.D., John G. Webb, M.D., Gregory P. Fontana, M.D., Raj R. Makkar, M.D., David L. Brown, M.D., Peter C. Block, M.D., Robert A. Guyton, M.D., Augusto D. Pichard, M.D., Joseph E. Bavaria, M.D., Howard C. Herrmann, M.D., Pamela S. Douglas, M.D., John L. Petersen, M.D., Jodi J. Akin, M.S., William N. Anderson, Ph.D., Duolao Wang, Ph.D., and Stuart Pocock, Ph.D., for the PARTNER Trial Investigators*

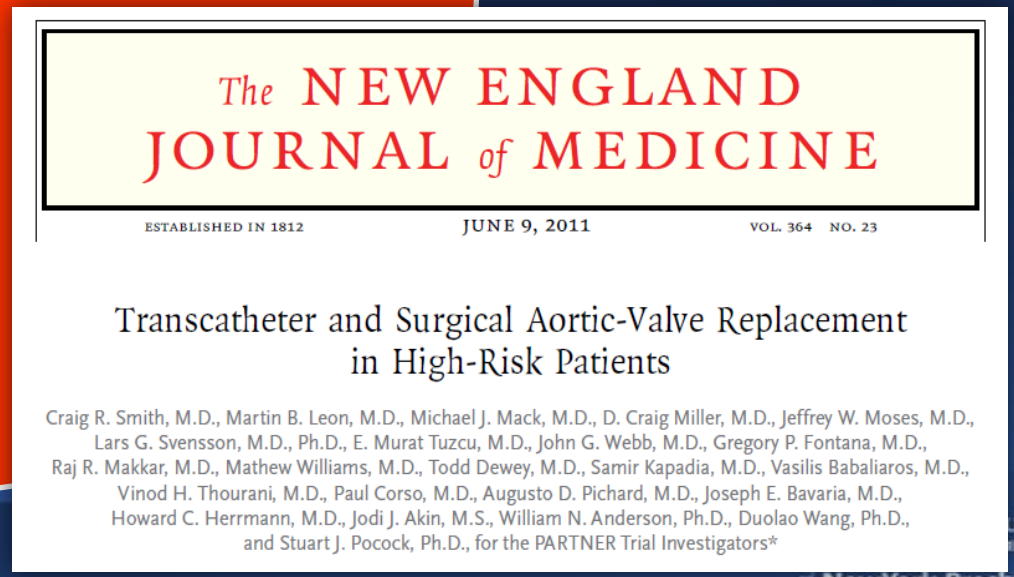


The NEW ENGLAND JOURNAL of MEDICINE

ESTABLISHED IN 1812 APRIL 28, 2016 VOL. 374 NO. 17

Transcatheter or Surgical Aortic-Valve Replacement in Intermediate-Risk Patients

Martin B. Leon, M.D., Craig R. Smith, M.D., Michael J. Mack, M.D., Raj R. Makkar, M.D., Lars G. Svensson, M.D., Ph.D., Susheel K. Kodali, M.D., Vinod H. Thourani, M.D., E. Murat Tuzcu, M.D., D. Craig Miller, M.D., Howard C. Herrmann, M.D., Darshan Doshi, M.D., David J. Cohen, M.D., Augusto D. Pichard, M.D., Samir Kapadia, M.D., Todd Dewey, M.D., Vasilis Babaliaros, M.D., Wilson Y. Szeto, M.D., Mathew R. Williams, M.D., Dean Kereiakes, M.D., Alan Zajarias, M.D., Kevin L. Greason, M.D., Brian K. Whisenant, M.D., Robert W. Hodson, M.D., Jeffrey W. Moses, M.D., Alfredo Trento, M.D., David L. Brown, M.D., William F. Fearon, M.D., Philippe Pibarot, D.V.M., Ph.D., Rebecca T. Hahn, M.D., Wael A. Jaber, M.D., William N. Anderson, Ph.D., Maria C. Alu, M.M., and John G. Webb, M.D., for the PARTNER 2 Investigators*



The NEW ENGLAND JOURNAL of MEDICINE

ESTABLISHED IN 1812 JUNE 9, 2011 VOL. 364 NO. 23

Transcatheter and Surgical Aortic-Valve Replacement in High-Risk Patients

Craig R. Smith, M.D., Martin B. Leon, M.D., Michael J. Mack, M.D., D. Craig Miller, M.D., Jeffrey W. Moses, M.D., Lars G. Svensson, M.D., Ph.D., E. Murat Tuzcu, M.D., John G. Webb, M.D., Gregory P. Fontana, M.D., Raj R. Makkar, M.D., Mathew Williams, M.D., Todd Dewey, M.D., Samir Kapadia, M.D., Vasilis Babaliaros, M.D., Vinod H. Thourani, M.D., Paul Corso, M.D., Augusto D. Pichard, M.D., Joseph E. Bavaria, M.D., Howard C. Herrmann, M.D., Jodi J. Akin, M.S., William N. Anderson, Ph.D., Duolao Wang, Ph.D., and Stuart J. Pocock, Ph.D., for the PARTNER Trial Investigators*

Innovation in TAVR

Remaining Clinical Needs

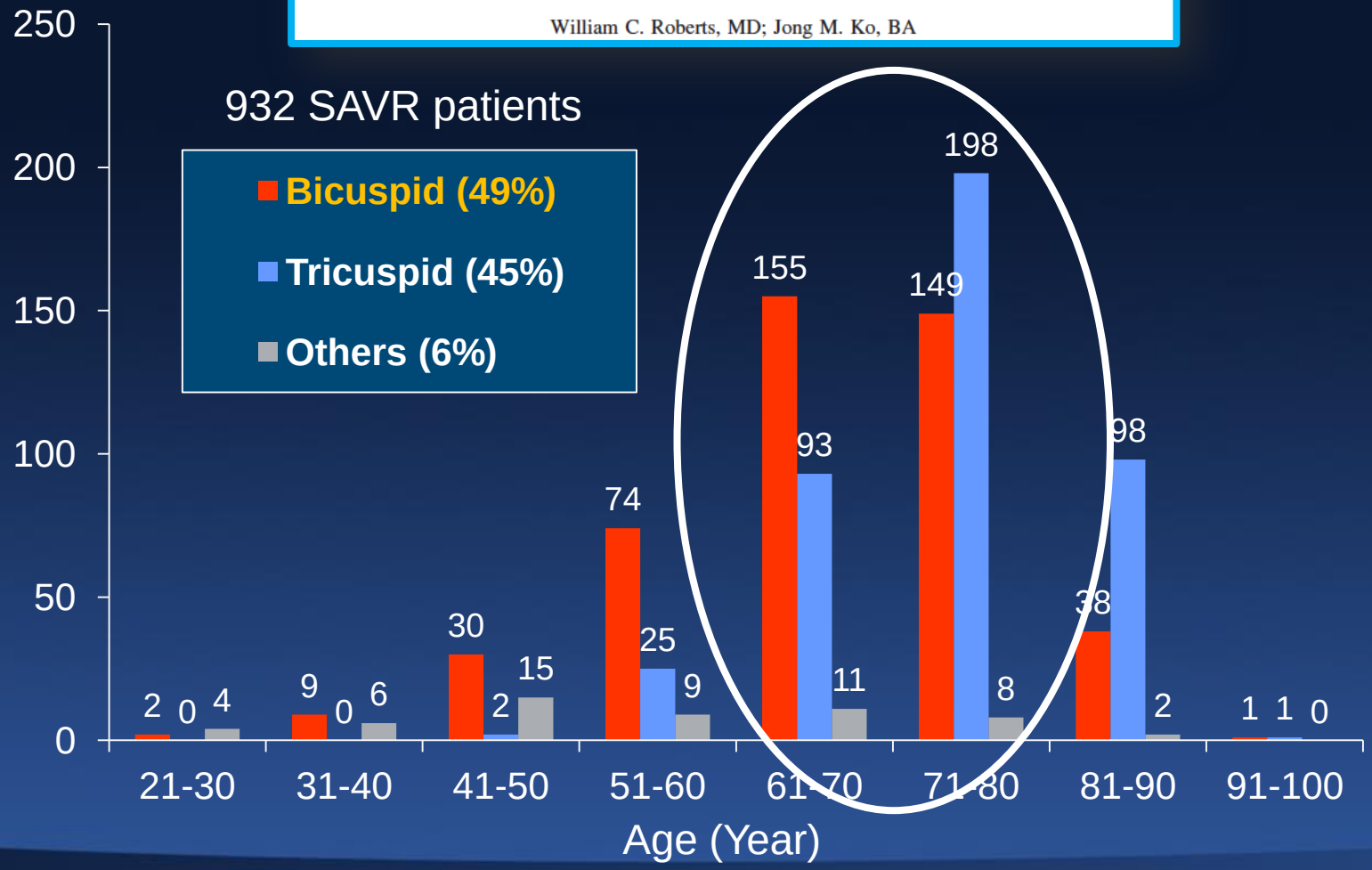
- **Bicuspid AV disease**
- **AS + concomitant disease (CAD**, MR, AF)
- Severe asymptomatic AS
- Moderate AS + CHF
- Durability concerns (including valve leaflet thrombosis) and coronary obstruction/access
- Adjunct Pharmacotherapy
- High-risk severe AR

Leon M, TCT 2018

Incidence of BAV in Isolated SAVR

Frequency by Decades of Unicuspid, Bicuspid, and Tricuspid Aortic Valves in Adults Having Isolated Aortic Valve Replacement for Aortic Stenosis, With or Without Associated Aortic Regurgitation

William C. Roberts, MD; Jong M. Ko, BA



Roberts, WC. Circulation 2005;111:920-925

Summary: TAVR Complications

- Patient selection, increased operator experience and improved devices technology are key to prevent complications
- Pre TAVR imaging (CT, 3D TEE) is key
- Adjunctive technique helped to control and manage catastrophic situation
- Accessibility to *alternative access site*
- Heart Team with knowledgeable and complementary members

Koncepce Heart Teamu v IKEM reaguje na změny v doporučení ESC/EACTS z roku 2017

ESC European Society of Cardiology
European Heart Journal (2017) **00**, 1–53
doi:10.1093/eurheartj/ehx391

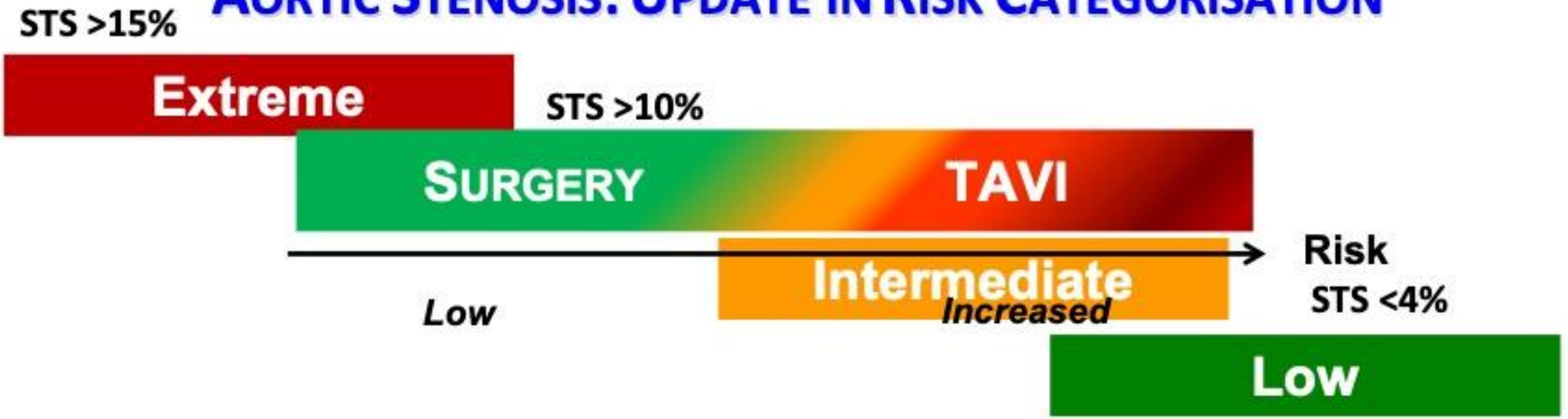
ESC/EACTS GUIDELINES

2017 ESC/EACTS Guidelines for the management of valvular heart disease

The Task Force for the Management of Valvular Heart Disease of the European Society of Cardiology (ESC) and the European Association for Cardio-Thoracic Surgery (EACTS)

In patients who are at increased surgical risk (STS or EuroSCORE II ≥ 4% or logistic EuroSCORE I ≥ 10%[d] or other risk factors not included in these scores such as frailty, porcelain aorta, sequelae of chest radiation), the decision between SAVR and TAVI should be made by the Heart Team according to the individual patient characteristics (see *Table 7*), with TAVI being favoured in elderly patients suitable for transfemoral access.[91,94–102]	I	B
Aortic valve interventions should only be performed in centres with both departments of cardiology and cardiac surgery on site and with structured collaboration between the two, including a Heart Team (heart valve centres).	I	C

2017 ESC/EACTS Guidelines for the Management of Aortic Stenosis: Update in Risk Categorisation



"The favourable results of TAVI have been reproduced in multiple large-scale, nationwide registries supporting the generalizability of outcomes observed in randomized controlled trials. This favours the use of TAVI over surgery in elderly patients at increased surgical risk. However, the final decision between SAVR and TAVI (including the choice of access route) should be made by the Heart Team."

EUROPEAN SOCIETY OF CARDIOLOGY®

European Heart Journal (2017) **38**, 2177–2183
doi:10.1093/eurheartj/ehx370

CURRENT
Valvular

Standards defining a 'Heart Valve Centre': ESC Working Group on Valvular Heart Disease and European Association for Cardiothoracic Surgery Viewpoint

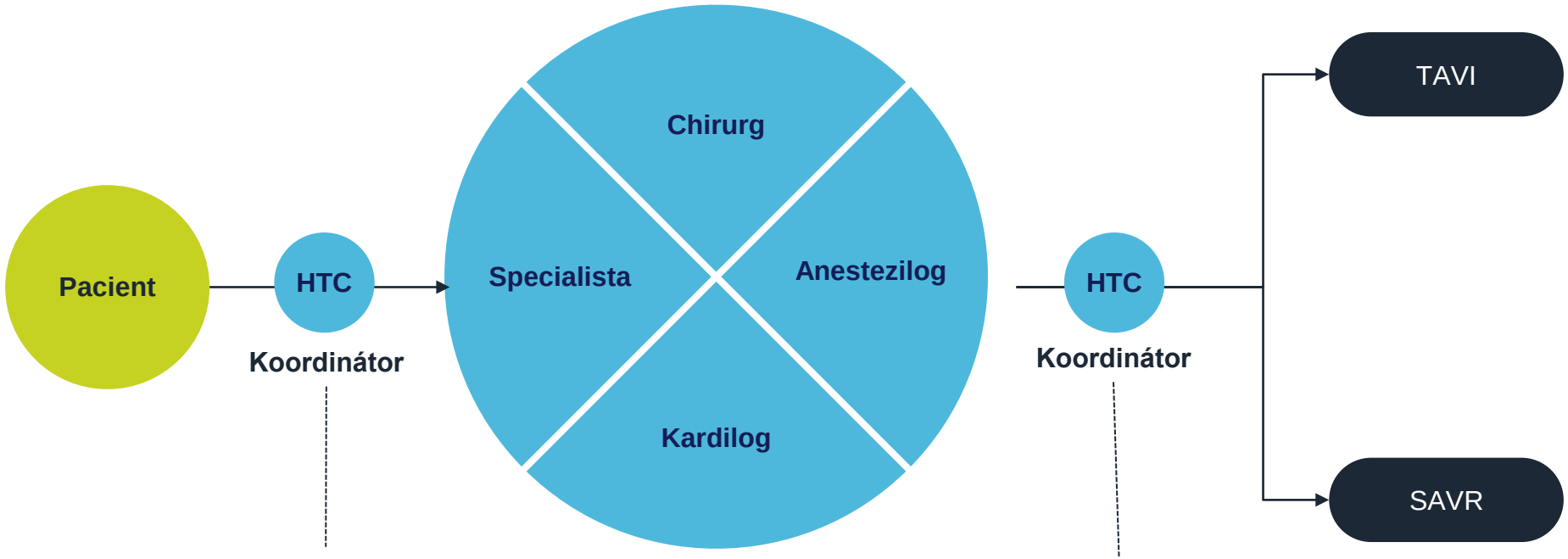
John B. Chambers[1]*, Bernard Prendergast[1], Bernard Iung[2], Raphael Rosenhek[3], Jose Luis Zamorano[4], Luc A. Piérard[5,6], Thomas Modine[7], Volkmar Falk[8], Arie Pieter Kappetein[9], Phillipe Pibarot[10], Thoralf Sundt[11], Helmut Baumgartner[12], Jeroen. J. Bax[13], and Patrizio Lancellotti[5,6,14]*

[1]Cardiothoracic Centre, Guy's and St Thomas' Hospitals, London SE1 7EH, UK; [2]Cardiology Department, Bichat Hospital, APHP, DHU Fire and Paris-Diderot University, Paris, France; [3]Vienna General Hospital, University of Vienna, Wien, Austria; [4]Cibercv, University Hospital Ramón y Cajal, Madrid, Spain; [5]Departments of Cardiology, Heart Valve Clinic, CHU Sart Tilman, Liège, Belgium; [6]University of Liège Hospital, GIGA Cardiovascular Sciences, Liège, Belgium; [7]Lille University Hospital, France; [8]Deutsches Herzzentrum Berlin, Germany; [9]Erasmus University, Rotterdam, The Netherlands; [10]Department of Medicine, Laval University, Quebec, Canada; [11]Corrigan Minehan Heart Center, Massachusetts General Hospital, Boston, MA, USA; [12]Division of Adult Congenital and Valvular Heart Disease, Department of Cardiovascular Medicine, University Hospital Muenster, Muenster, Germany; [13]Leiden University Medical Center, The Netherlands; and [14]Anthea Hospital, Gruppo Villa Maria Care and Research, Bari, Italy

Schéma Heart Team IKEM

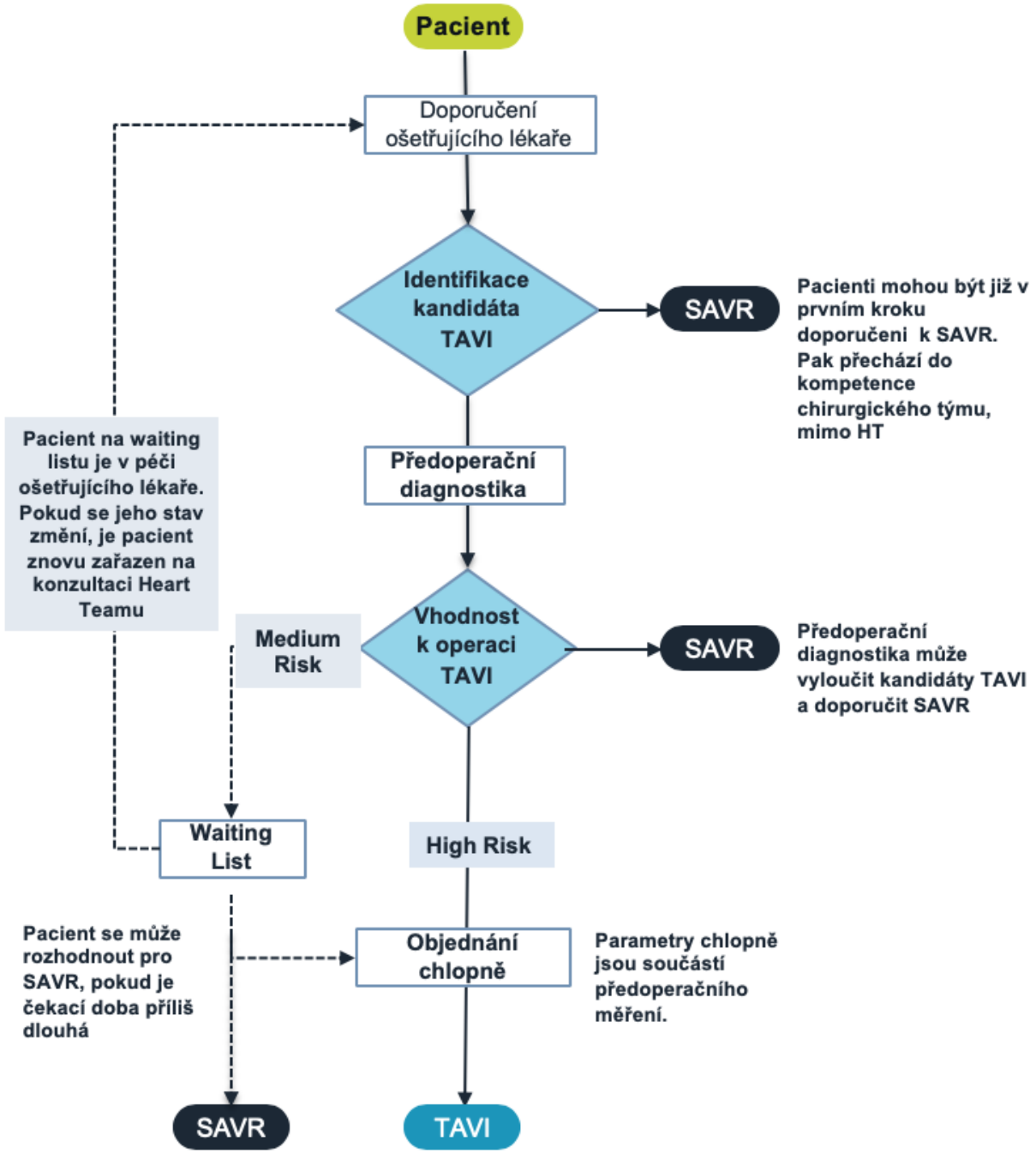
IKEM Heart Valve Team Center
(HTC)

Multidisciplinární tým vyhodnocuje klinická vyšetření, indikuje pacienta ke způsobu léčby a rozhoduje o načasování zákroku



Koordinátor připravuje dokumentaci pacientů

Koordinátor se stará o plánování pacientů k zákroku



Heart Team posuzuje kandidáta intervence na aortální chlopni.

Definuje optimální léčebný postup – SAVR, TAVI, konzervativní postup

ZLATOKOP

Čekací listina TAVI *

textový filtr

Aktivní čekatelé 8

*40	1m 20
*34	1m 6d
*39	29d
*57	22d
*45	22d
*41	22d
*26	8d
*45	8d

Dočasně vyřazení 2

*39	1m 20
*51	14d

Kandidáti 1

*42

Konzervativně 10

*38
*52
*48
*36
*39
*32
*46
*32
*41
*32

Záznamy k uzavření 0

Záznam v čekací listině TAVI
aktivní od 29.4.2019

Administrace

Základní údaje

Diagnóza I35.2: Stenóza aortální chlopně s insuficiencí

? diagnóza

Indikace 29.4.2019 **pojišťovna** 205

Plán. termín dd.mm.rrrr

aktivní | normální **od** 29.4.2019 15:00

na čekací listině 8 dní - **aktivní** 8 dní

od indikace 8 dní

Klinické informace

Přístup TA **typ** Sapien S3 **velikost** ?vel. mm

☐ další výkon

další KLINICKY relevantní údaje a caveata (bude vytištěno v protokolu)

Indikační protokol Kardiocentra IKEM - katetrizační program

Pacient:
Rodné číslo:
Datum narození:
Pojišťovna: **205**

Číslo protokolu:
Indikace: **29.4.2019 14:22**
Katetrizace: 23.4.2019 11:56

Klinické informace:

Základní dg.: aortální vada
Biometrie: hmotnost 84.0 kg, výška 174 cm, BMI 27.7
Symptomy: angina pectoris n/a, dušnost NYHA III, sinusový rytmus
Vyšetření: EF 45 %, SKG - stenóza kmene ACS, nemoc 2 tepen

Riziková stratifikace:

EURO skore: aditivní 13 - logistické 36.41 %

Indikace:

Indikační závěr: **indikovaný výkon TAVI - pořadí elektivní - přístup transapikální**

Indikační tým: MUDr. Michael Želízko, CSc
MUDr. Jana Vrbská
MUDr. Adrian Reichenbach
doc. MUDr. Jiří Malý, Ph.D
MUDr. Martin Kotrč

indikaci zapsal MUDr. Martin Kotrč

protokol uzavřen 29.4.2019 14:22, tento výtisk vznikl 7.5.2019 06:51, id #7901453

Structural Heart
The Journal of the Heart Team

ISSN: 2474-8706 (Print) 2474-8714 (Online) Journal homepage: https://www.tandfonline.com/loi/ushj20

Agenda Heart Team

Approaches to the Role of The Heart Team in Therapeutic Decision Making for Heart Valve Disease

Christiaan F. J. Antonides, Michael J. Mack & A. Pieter Kappetein

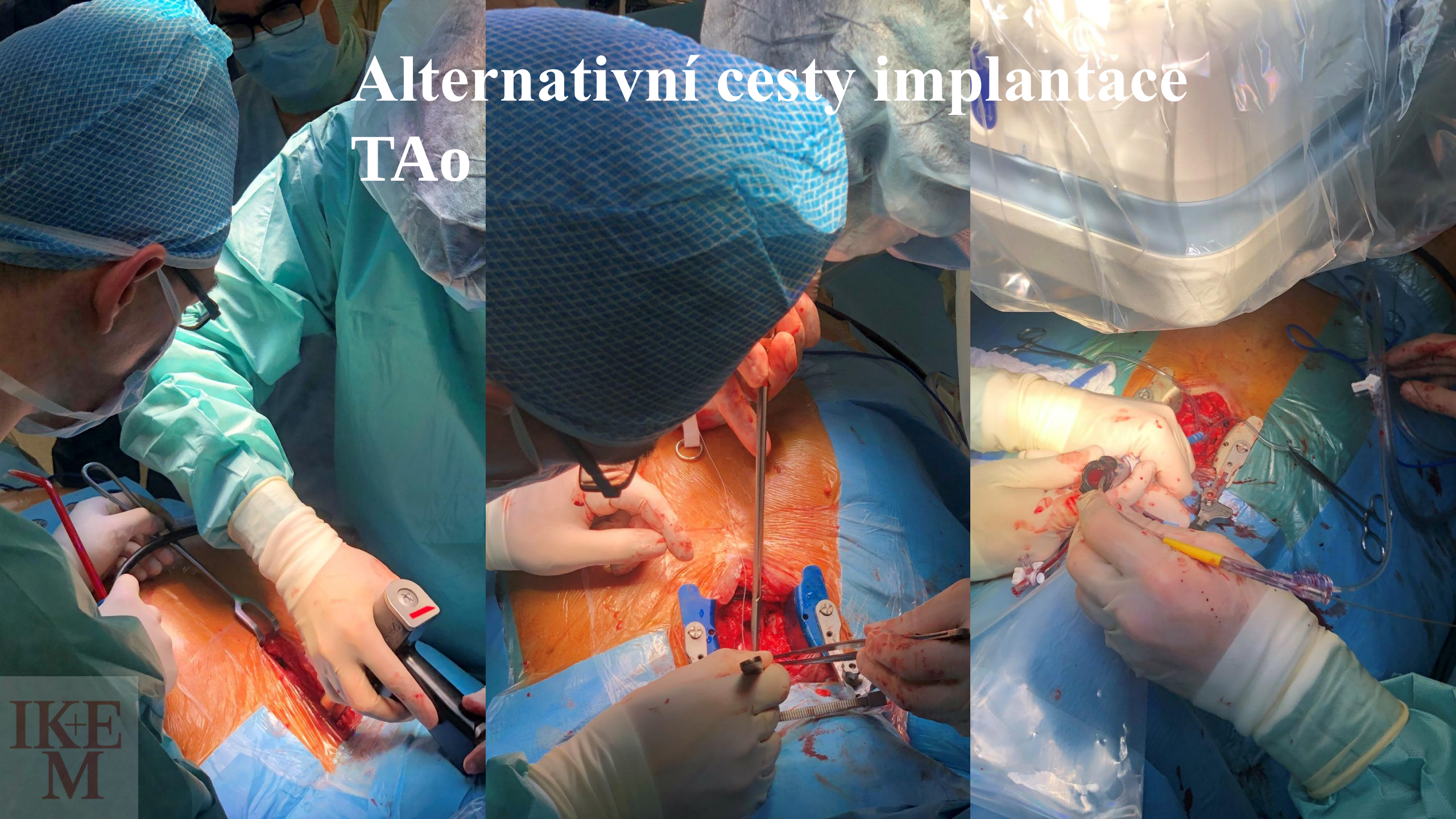
- Zvolit optimální terapii ICHS u komplikovaných kandidátů intervence či operace (OMM, PCI, CABG ci kombinace)
- Komplexní katetrizační či hybridní léčba strukturálních onemocnění srdce (TAVR, mitrální, trikuspidální a další interv)
- Shock team při léčbě akutního srdečního selhání (AMI, ADHF)

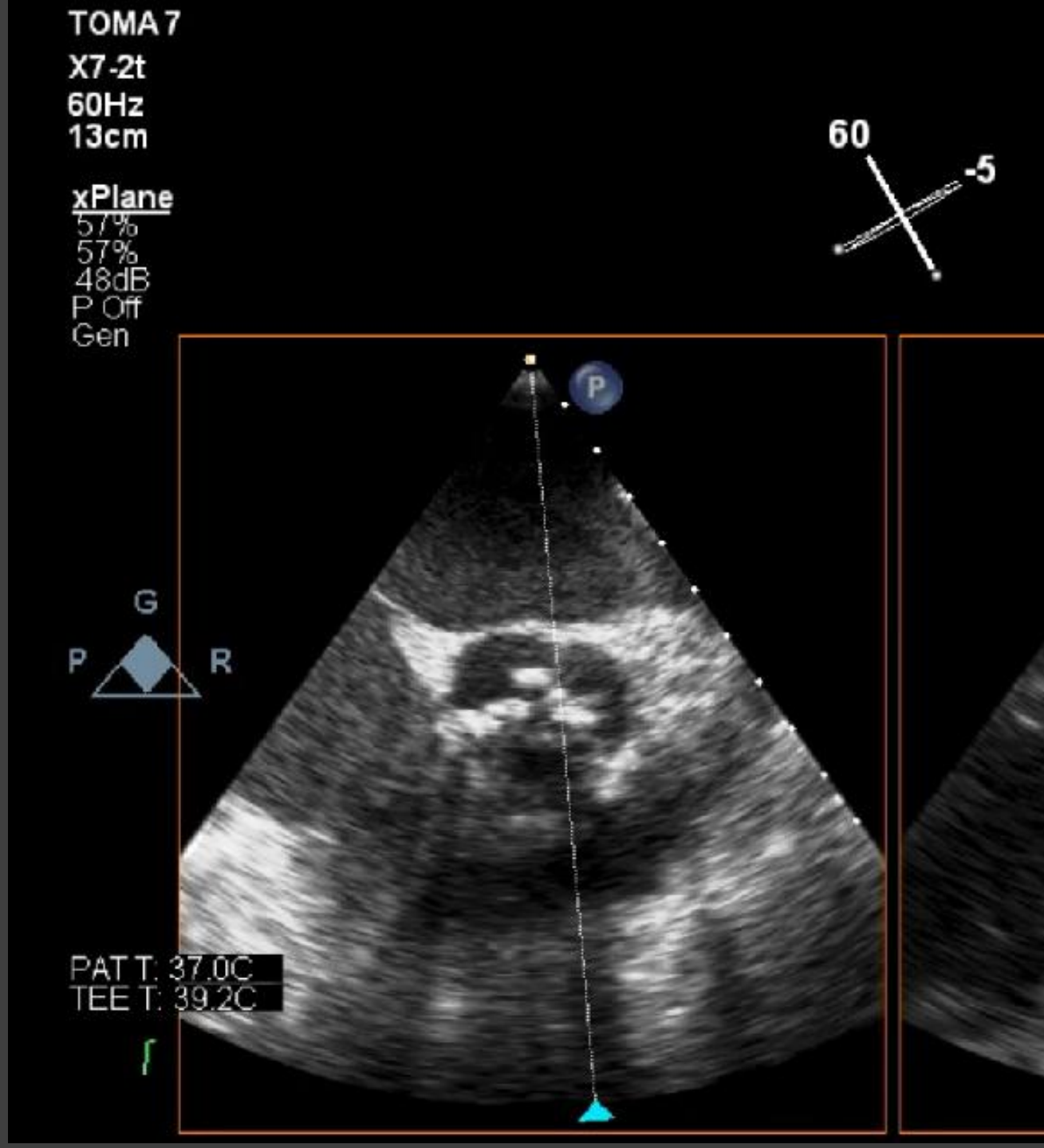
IKEM

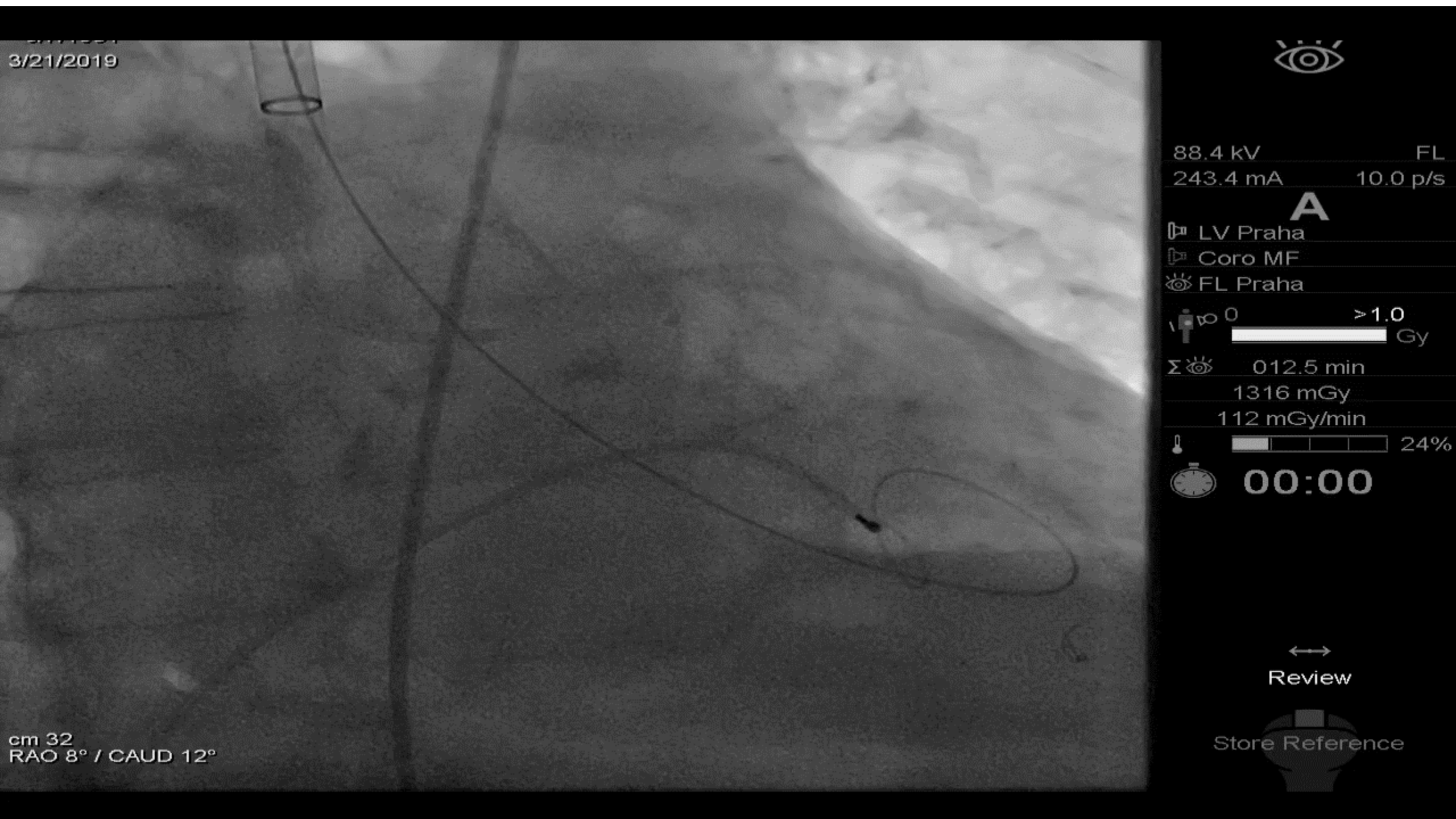

IK+E
M

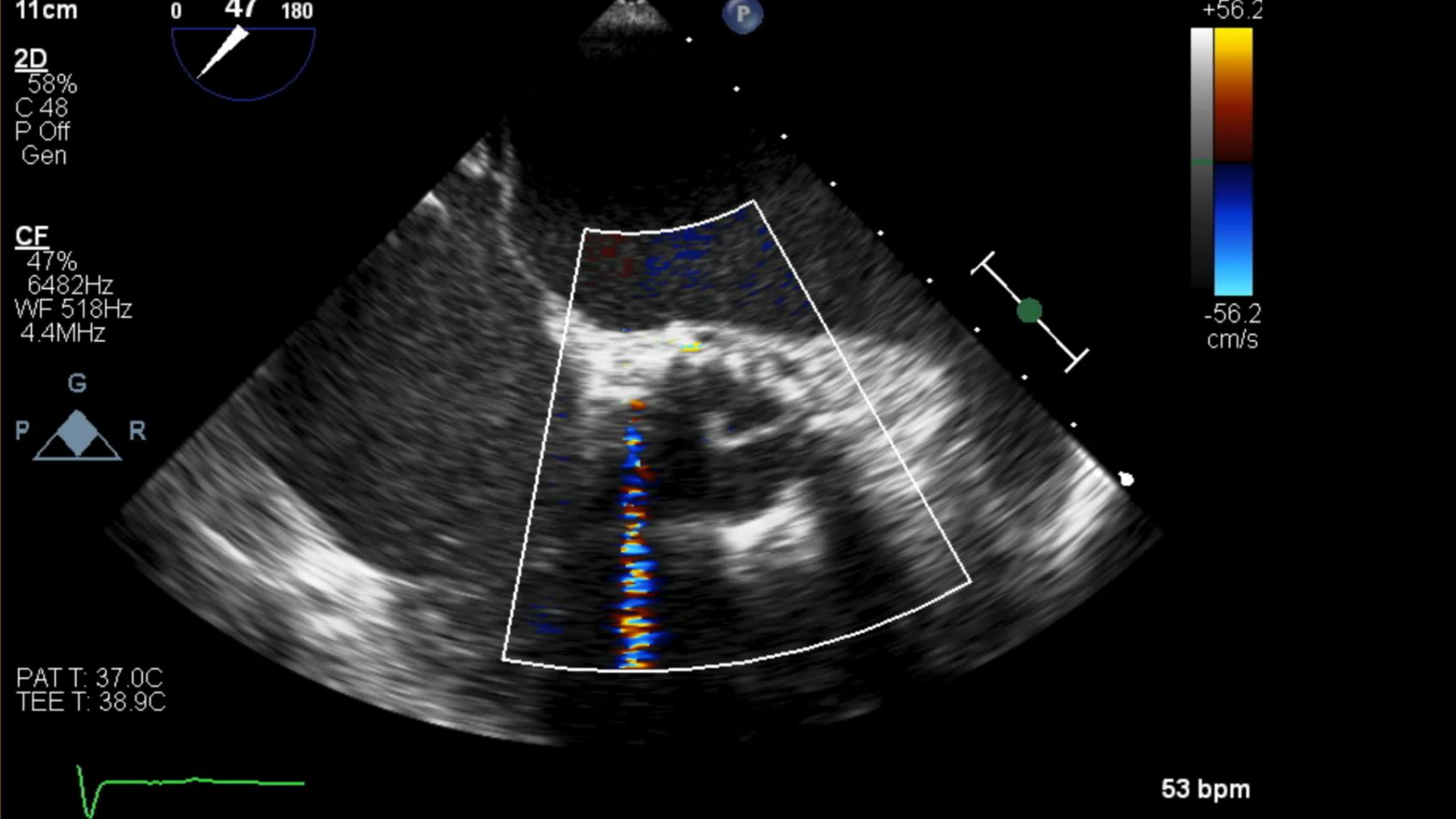
Alternativní cesty implantace

TAo



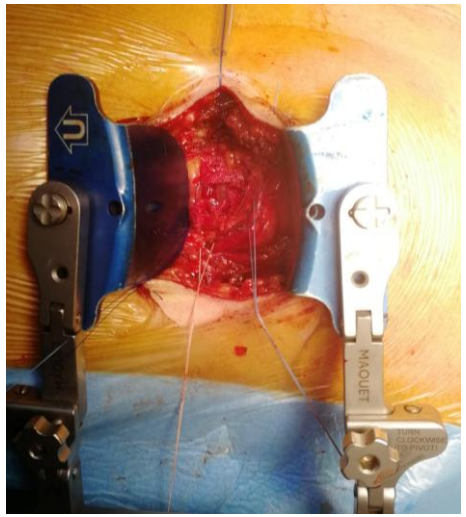

TOMA 7
X7-2t
60Hz
13cm
xPlane
57%
57%
48dB
P Off
Gen
60
-5
G
P
R
P
PAT T: 37.0C
TEE T: 39.2C

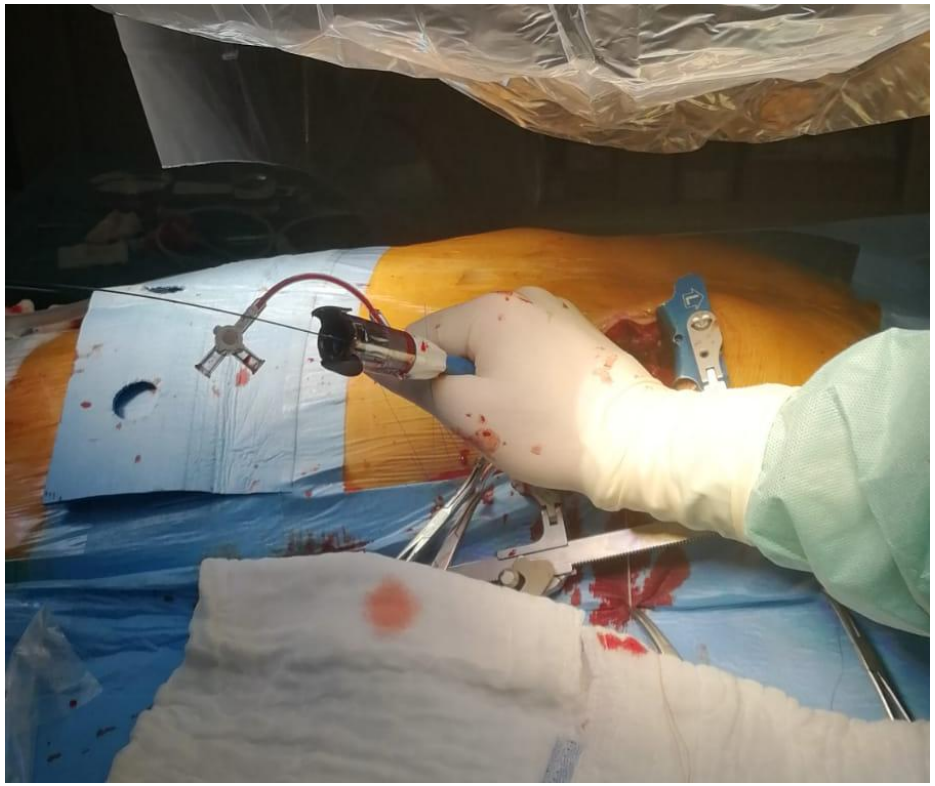

3/21/2019
88.4 kV
FL
243.4 mA
10.0 p/s
A
LV Praha
Coro MF
FL Praha
0
>1.0
Gy
012.5 min
1316 mGy
112 mGy/min
24%
00:00
Review
Store Reference
cm 32
RAO 8° / CAUD 12°

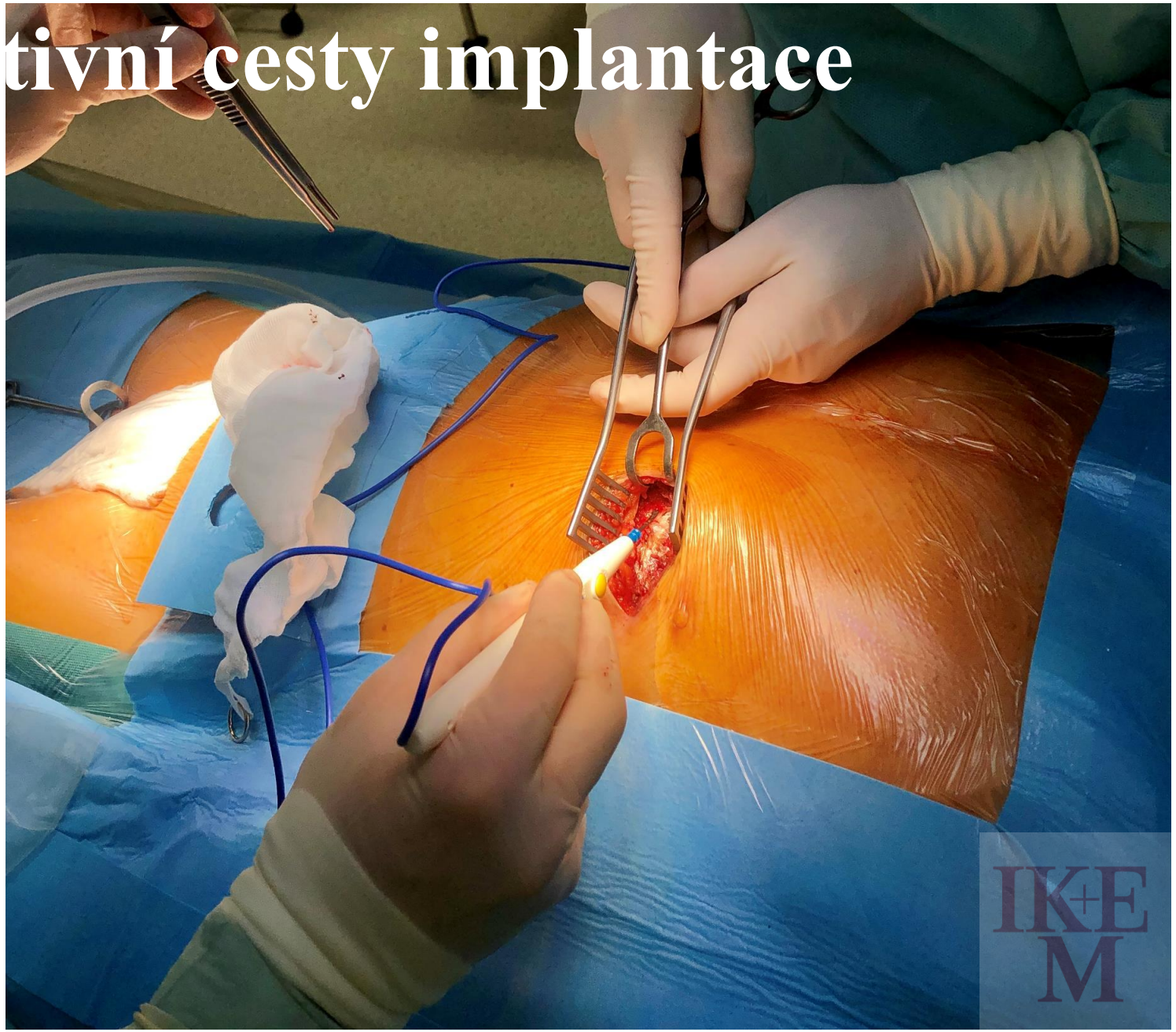

11cm
0
47
180
2D
58%
C 48
P Off
Gen
CF
47%
6482Hz
WF 518Hz
4.4MHz
G
P
R
+56.2
-56.2
cm/s
PAT T: 37.0C
TEE T: 38.9C
53 bpm

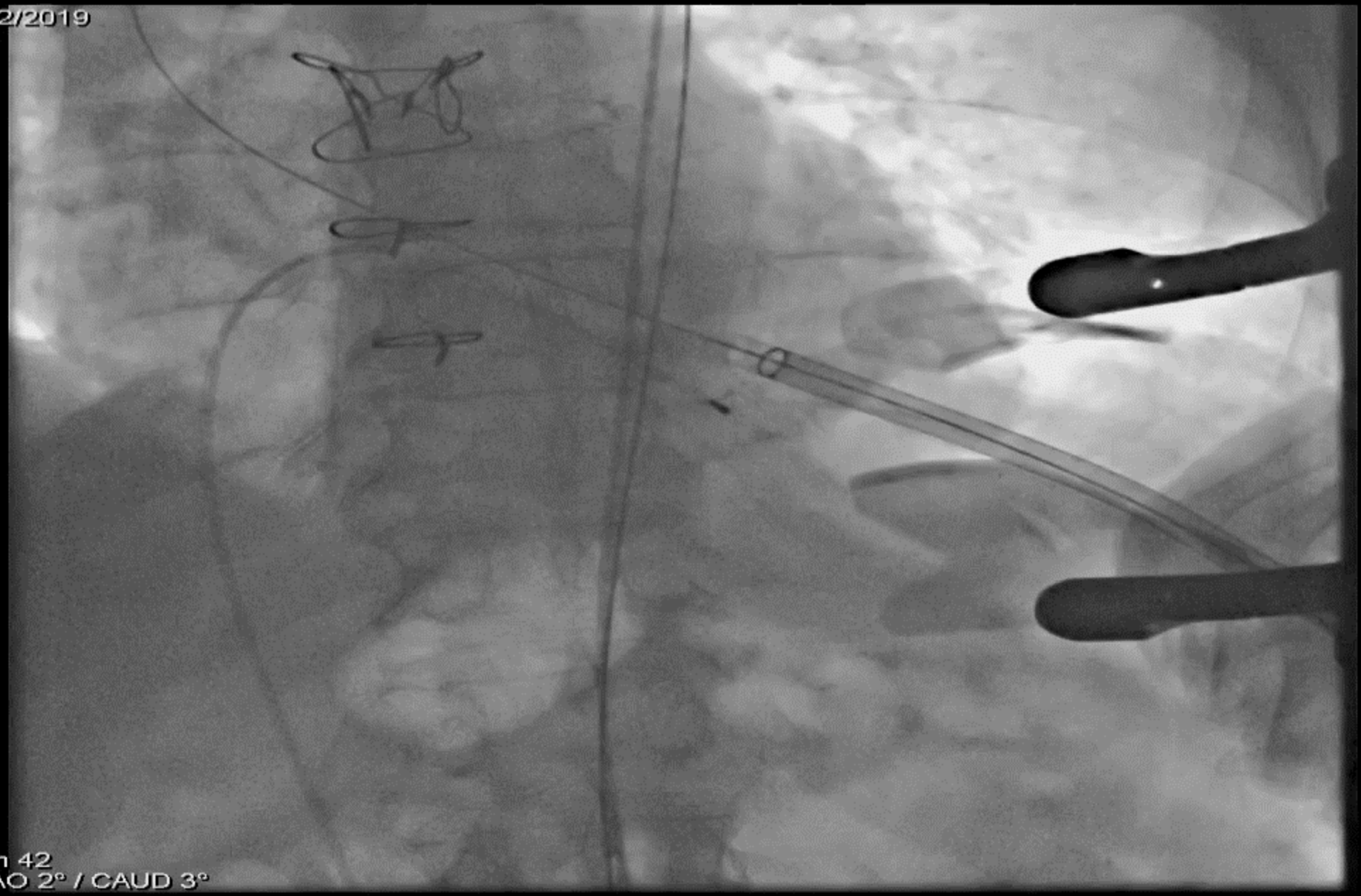
Alternativní cesty implantace

TA

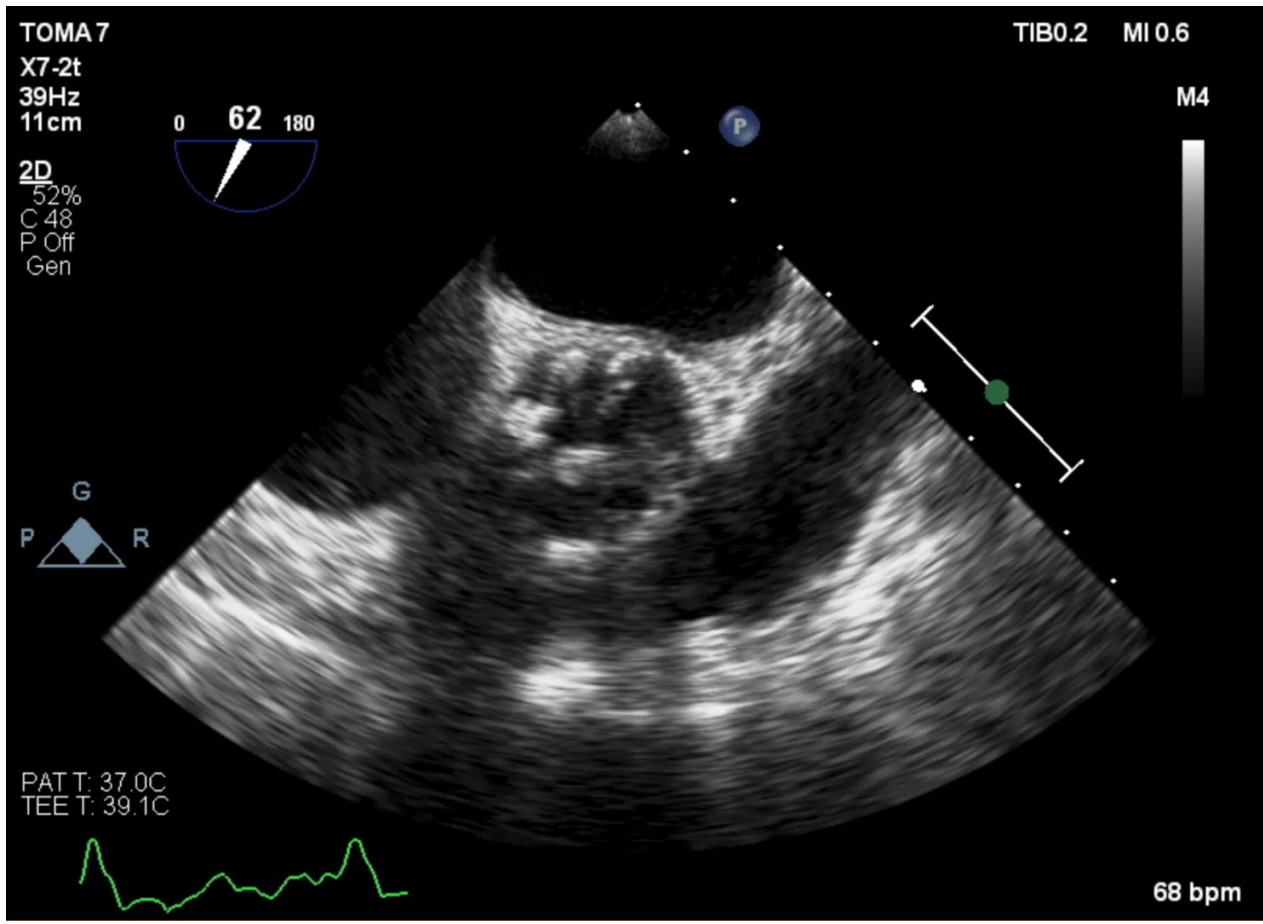


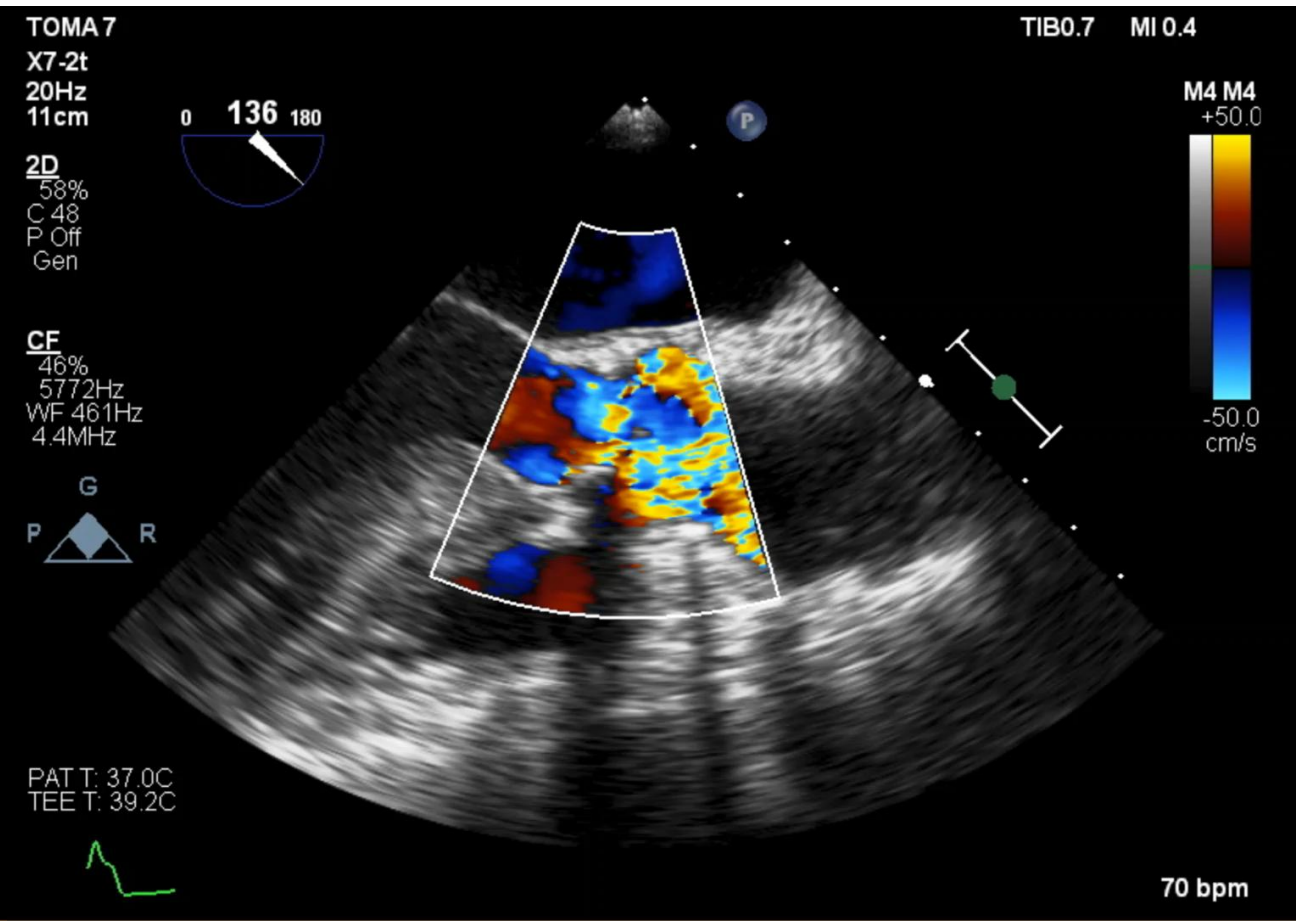


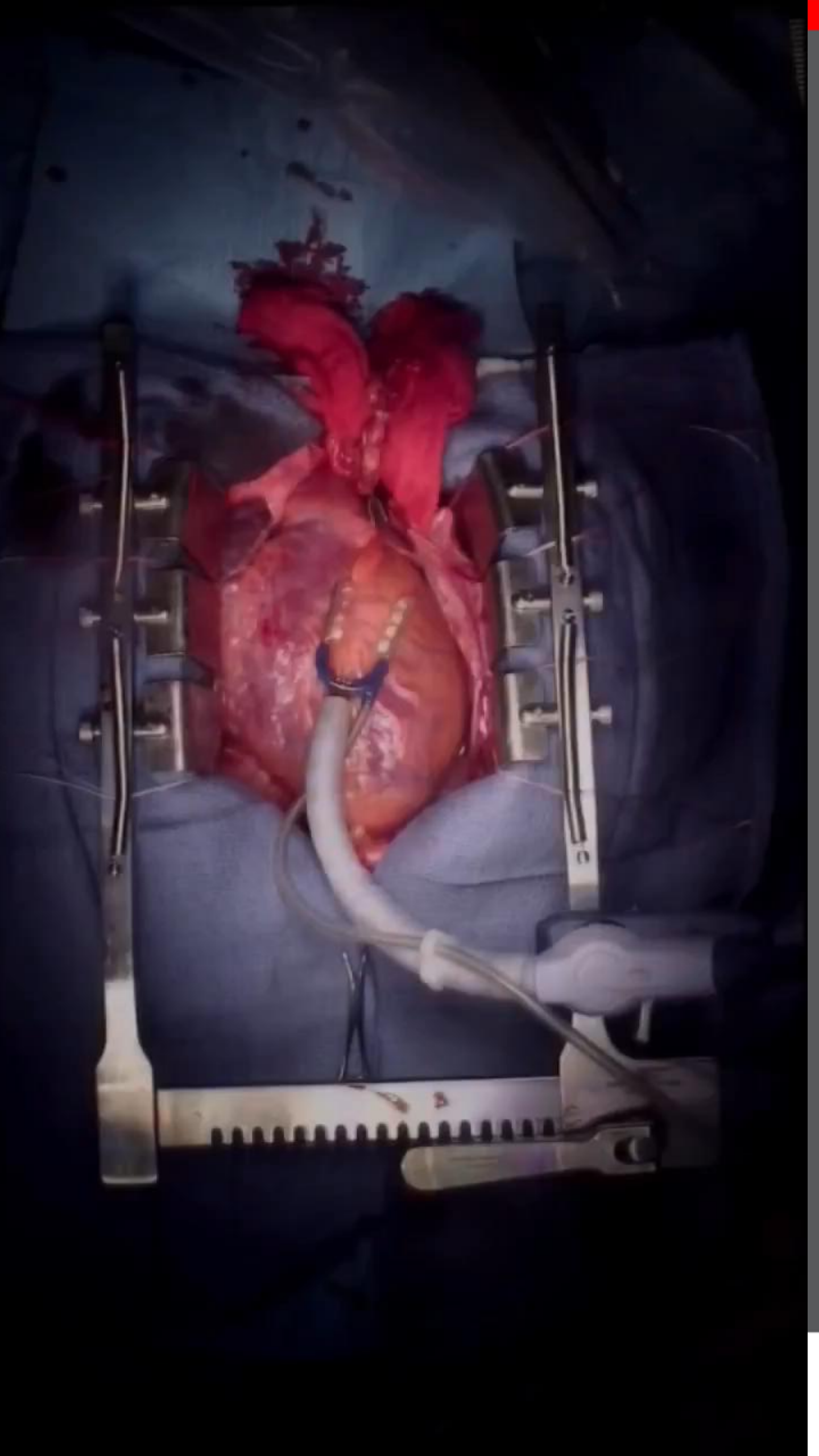



5/2/2019
71.4 kV
FL
238.6 mA
10.0 p/s
A
LV TAVI
Coro MF
FL Praha
0
1.0
Gy
006.5 min
385 mGy
31 mGy/min
10%
00:00
Review
Store Reference
cm 42
LAO 2° / CAUD 3°

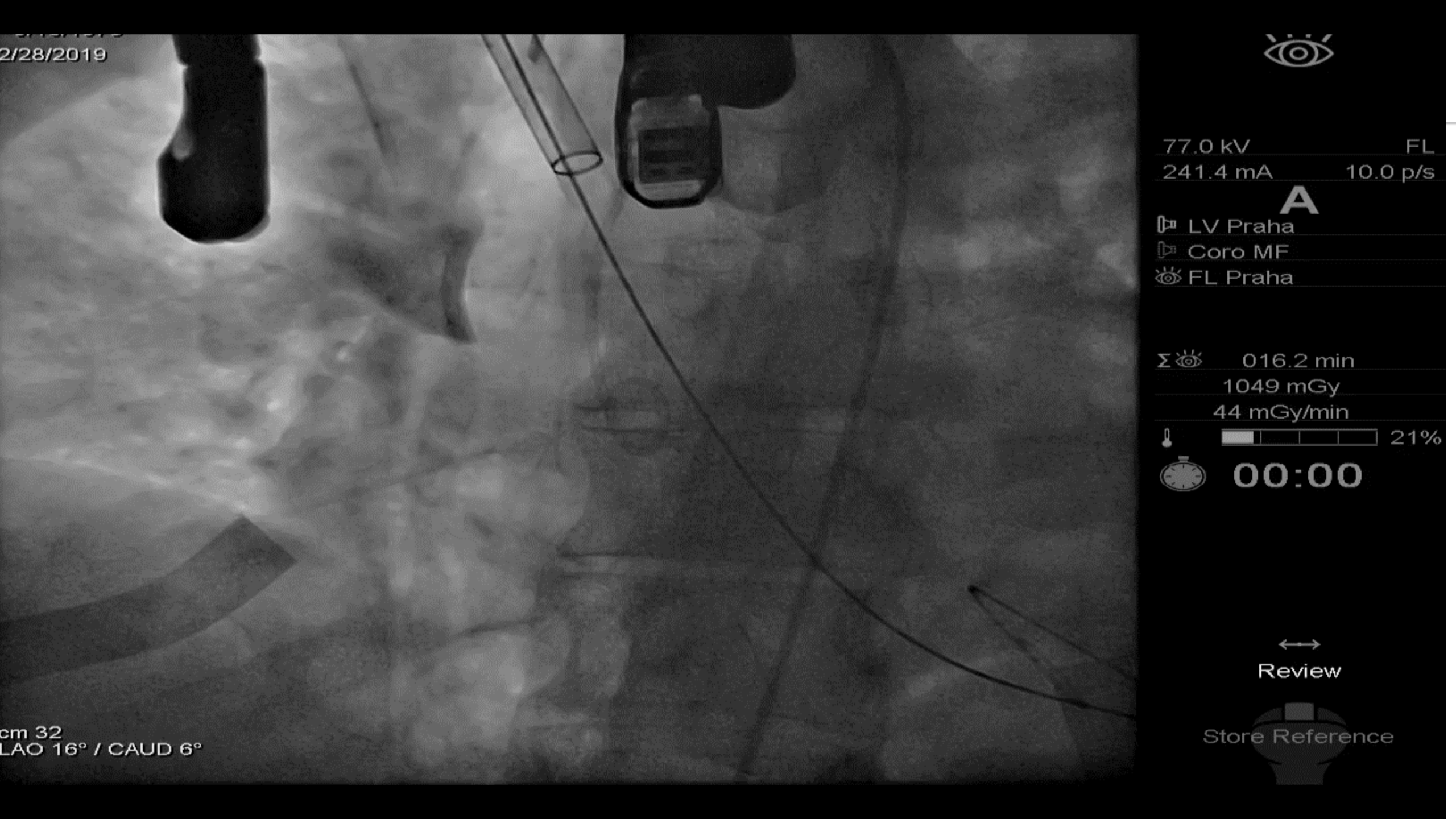
Alternativní cesty implantace
Kombinovaný hybridní výkon

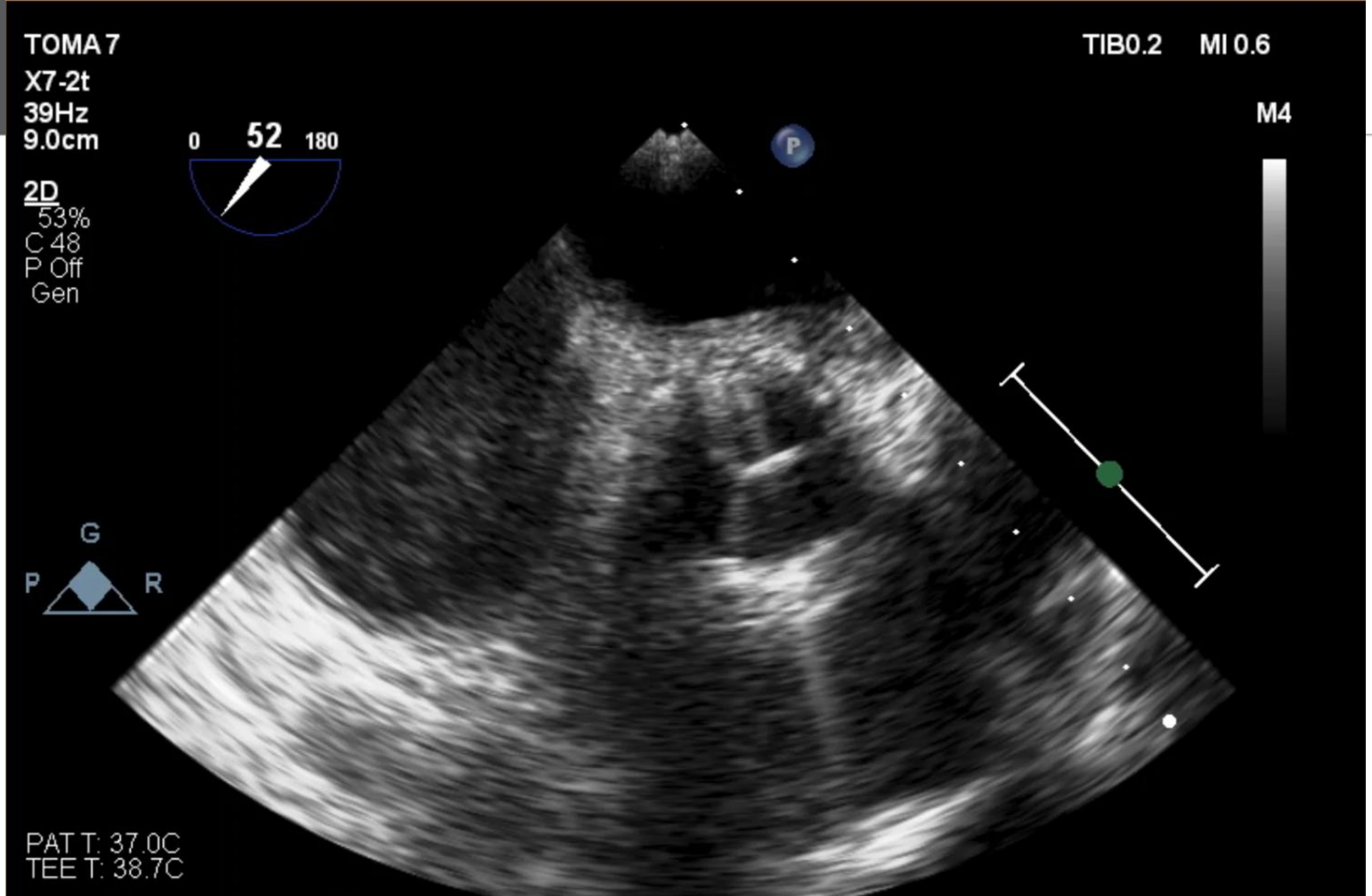

TOMA 7
X7-2t
39Hz
11cm
0 62 180
2D
52%
C 48
P Off
Gen
TIB0.2 MI 0.6
M4
G
P R
PAT T: 37.0C
TEE T: 39.1C
68 bpm


TOMA 7
X7-2t
20Hz
11cm
0 136 180
2D
58%
C 48
P Off
Gen
CF
46%
5772Hz
WF 461Hz
4.4MHz
TIB0.7 MI 0.4
M4 M4
+50.0
-50.0
cm/s
G
P R
PAT T: 37.0C
TEE T: 39.2C
70 bpm




SIEMENS
10:33


2/28/2019
77.0 kV
FL
241.4 mA
10.0 p/s
A
LV Praha
Coro MF
FL Praha
Σ 016.2 min
1049 mGy
44 mGy/min
21%
00:00
Review
Store Reference
cm 32
LAO 16° / CAUD 6°


TOMA 7
X7-2t
39Hz
9.0cm
2D
53%
C 48
P Off
Gen
0
52
180
TIB0.2
MI 0.6
M4
G
P
R
PAT T: 37.0C
TEE T: 38.7C

Agenda Shock Team

Acute mechanical circulatory support program

- primární nastavení implantace ECMO/Impella v rámci emergentní terapie kardiogenního šoku
- nastavení přesného algoritmu spolupráce mezi odd akutní kardiologie, odd interv kardiologie a Klinikou KCH

JOURNAL OF THE AMERICAN COLLEGE OF CARDIOLOGY VOL. 73, NO. 13, 2019

Standardized Team-Based Care for Cardiogenic Shock

Behnam N. Tehrani, MD,[a] Alexander G. Truesdell, MD,[a,b] Matthew W. Sherwood, MD,[a] Shashank Desai, MD,[a] Henry A. Tran, MD,[a] Kelly C. Epps, MD,[a] Ramesh Singh, MD,[a] Mitchell Psotka, MD, PhD,[a] Palak Shah, MD,[a] Lauren B. Cooper, MD,[a] Carolyn Rosner, NP,[a] Anika Raja, BS,[a] Scott D. Barnett, PhD,[a] Patricia Saulino, RN, MPA,[a] Christopher R. deFilippi, MD,[a] Paul A. Gurbel, MD,[a] Charles E. Murphy, MD,[a] Christopher M. O'Connor, MD[a]

ABSTRACT

BACKGROUND Cardiogenic shock (CS) is a multifactorial, hemodynamically complex syndrome associated with high mortality. Despite advances in reperfusion and mechanical circulatory support, management remains highly variable and outcomes poor.

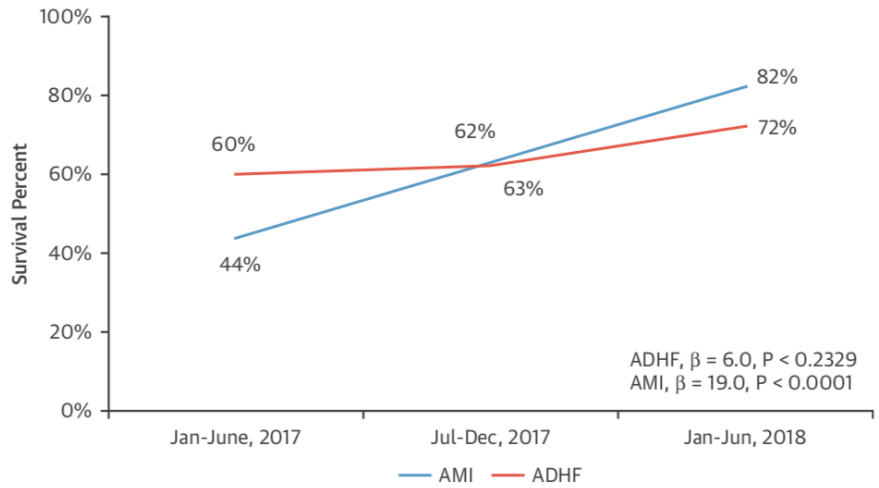
OBJECTIVES This study investigated whether a standardized team-based approach can improve outcomes in CS and whether a risk score can guide clinical decision making.

METHODS A total of 204 consecutive patients with CS were identified. CS etiology, patient demographic characteristics, right heart catheterization, mechanical circulatory support use, and survival were determined. Cardiac power output (CPO) and pulmonary arterial pulsatility index (PAPi) were measured at baseline and 24 h after the CS diagnosis. Thresholds at 24 h for lactate (<3.0 mg/dl), CPO (>0.6 W), and PAPi (>1.0) were determined. Using logistic regression analysis, a validated risk stratification score was developed.

RESULTS Compared with 30-day survival of 47% in 2016, 30-day survival in 2017 and 2018 increased to 57.9% and 76.6%, respectively ($p < 0.01$). Independent predictors of 30-day mortality were age ≥71 years, diabetes mellitus, dialysis, ≥36 h of vasopressor use at time of diagnosis, lactate levels ≥3.0 mg/dl, CPO <0.6 W, and PAPi <1.0 at 24 h after diagnosis and implementation of therapies. Either 1 or 2 points were assigned to each variable, and a 3-category risk score was determined: 0 to 1 (low), 2 to 4 (moderate), and ≥5 (high).

CONCLUSIONS This observational study suggests that a standardized team-based approach may improve CS outcomes. A score incorporating demographic, laboratory, and hemodynamic data may be used to quantify risk and guide clinical decision-making for all phenotypes of CS. (J Am Coll Cardiol 2019;73:1659–69) © 2019 The Authors. Published by Elsevier on behalf of the American College of Cardiology Foundation. This is an open access article under the CC BY-NC-ND license (http://creativecommons.org/licenses/by-nc-nd/4.0/).

FIGURE 1 30-Day Survival According to Group and Time Period

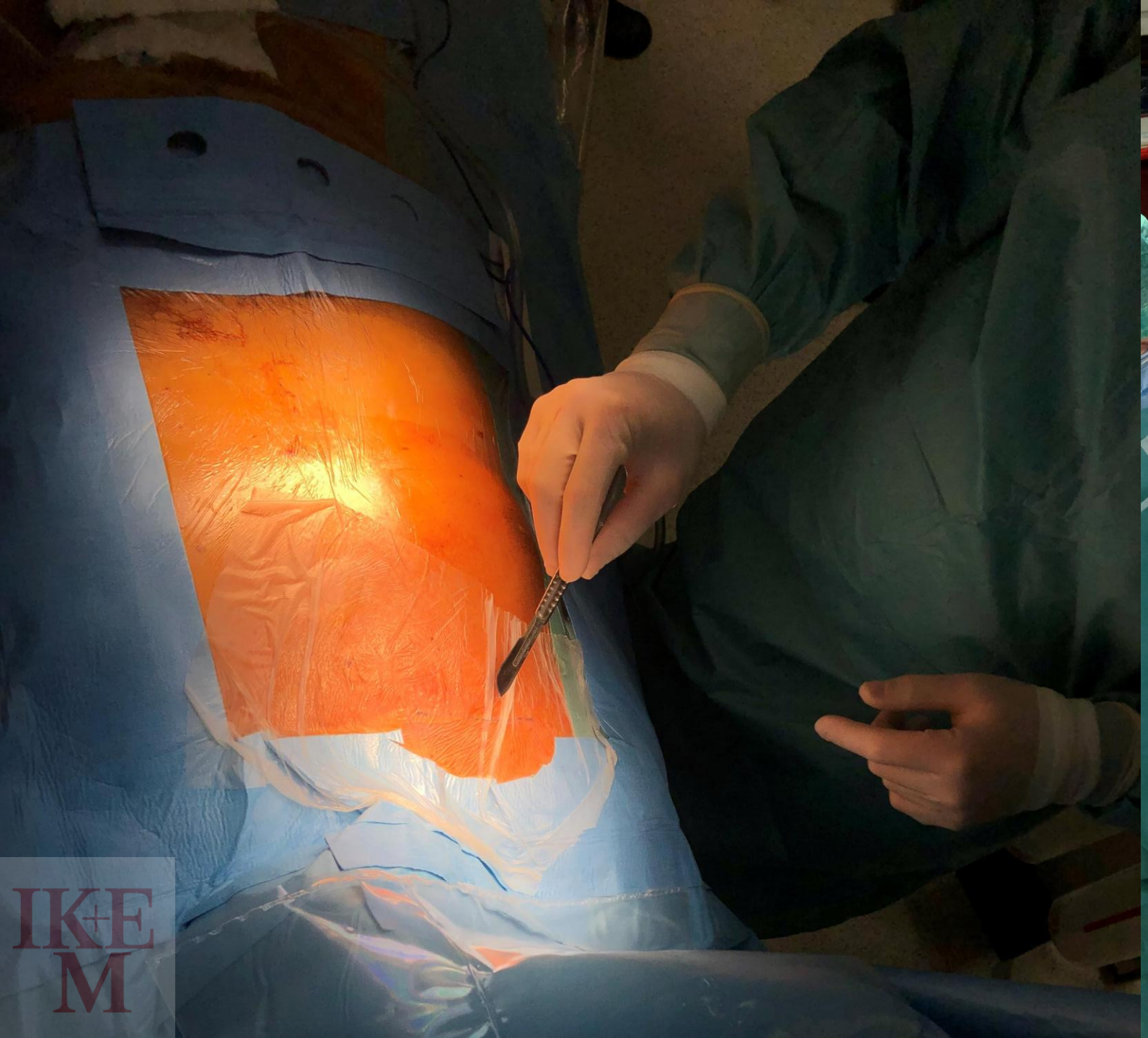


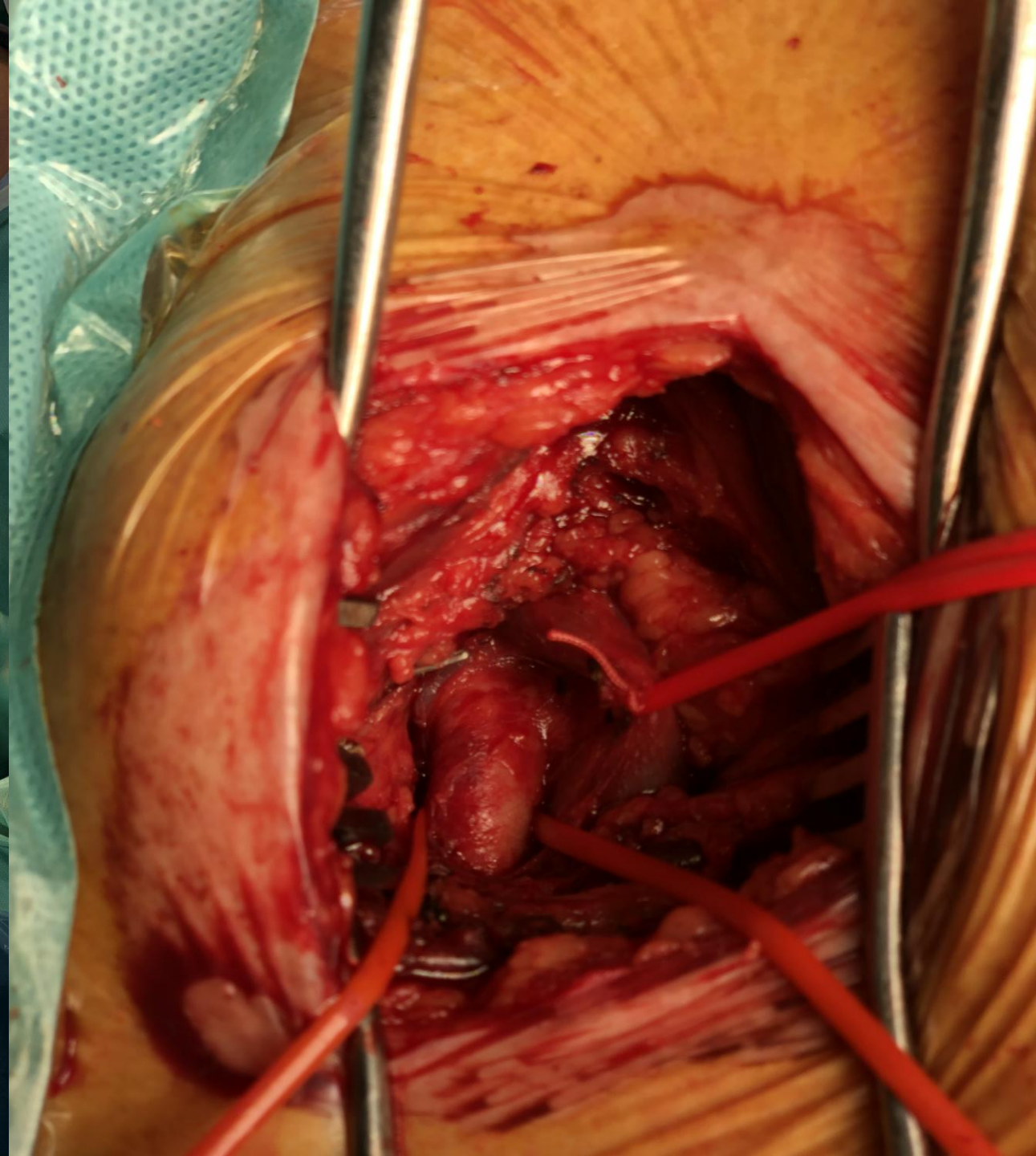
ADHF = acute decompensated heart failure; AMI = acute myocardial infarction.

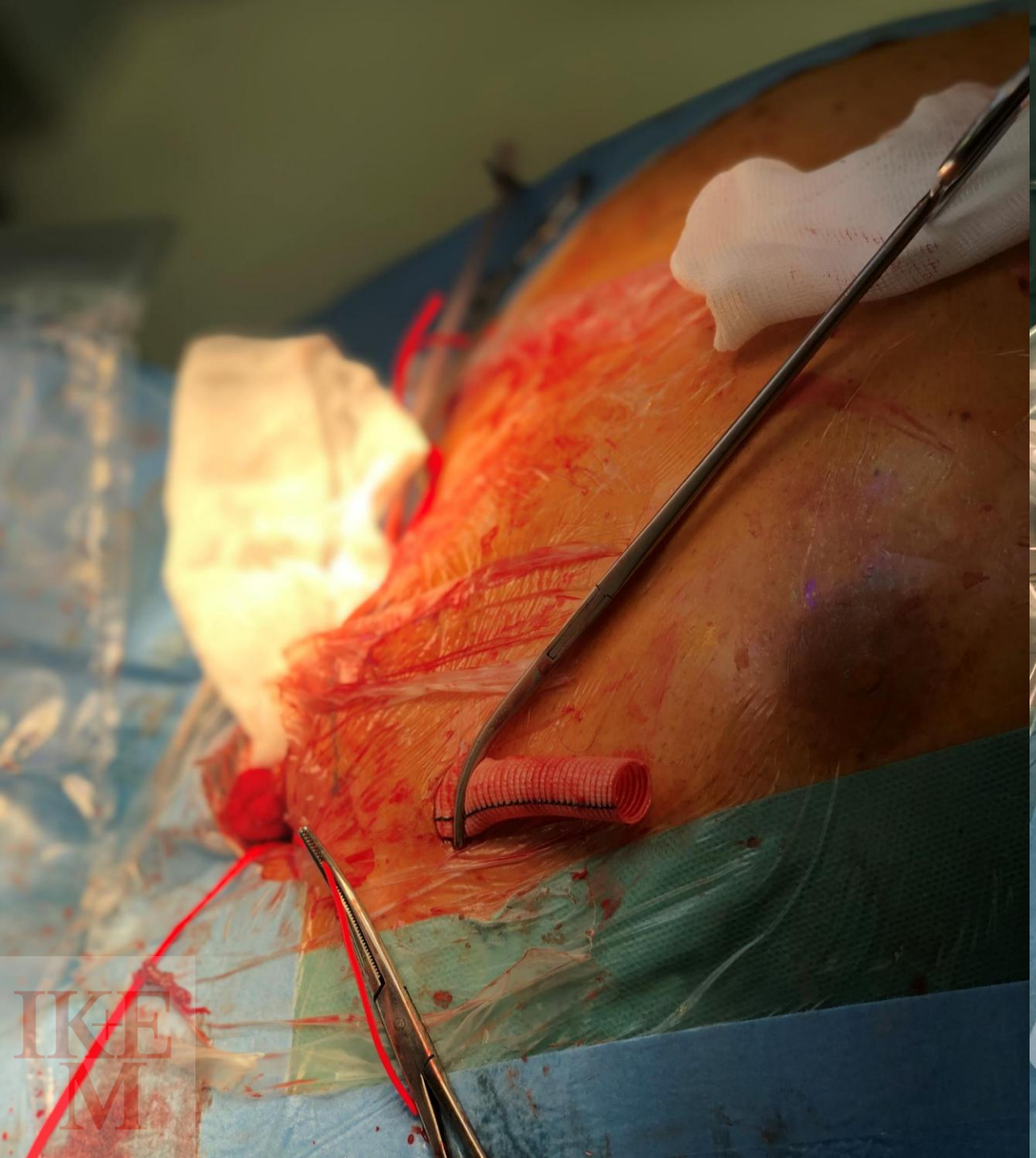

Dräger
PR(Art)
vysoká
CVP
mean vysoký
QTc vysoký
KCH-SAL-6
IKEM
6 47
PDM
HR /min
92
EKG
ST mm
II V1 aVL II
1.1 0.6 -0.6 1.1
P1 Art mmHg
77/56 (65)
P2 CVP mmHg
(26)
SpO2 %
92
NIBP mmHg Dosp.
SYS DIA
--- / ---
M
(---)
Manuál
T1 a T2 °C
Nedetekován senzor
T1
T2

T2-T1

Nastavení alarmů
Nastavení monitoru
Procedury
Data a stránky
Trendy
Tisk křivek
Zmrazit/ Snímek
NIBP Start
NIBP Auto Start
Nulování všech tlaků

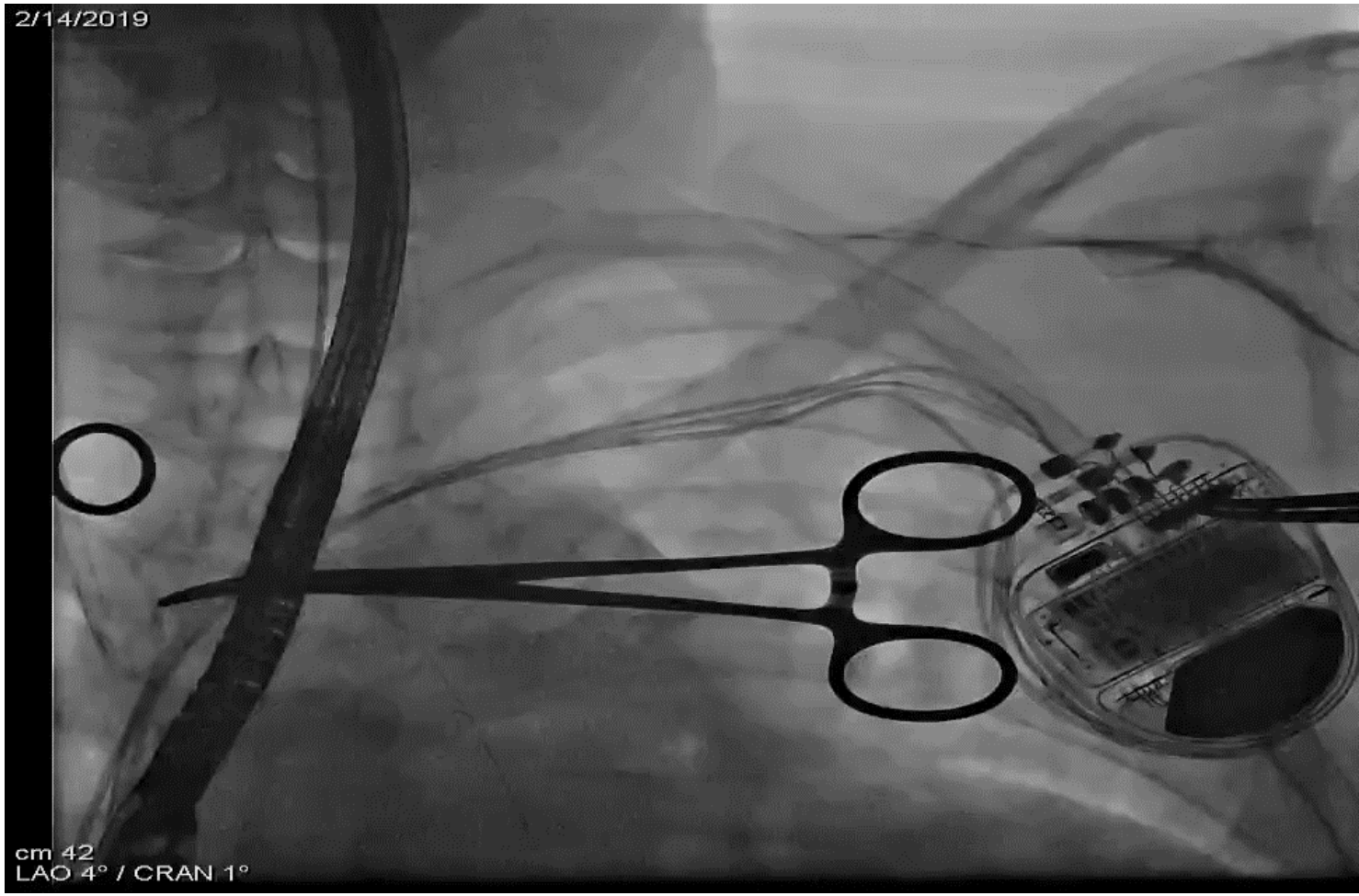


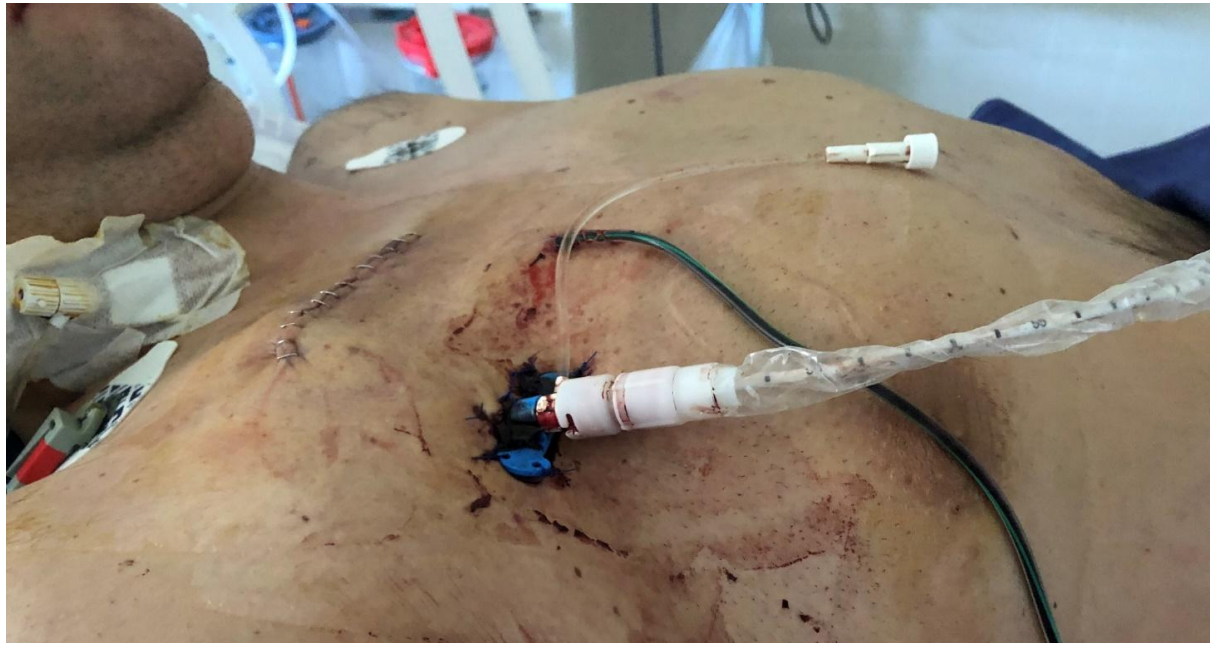

VISION >> MOVED & EXPANDED TO: >>
IK+E
M




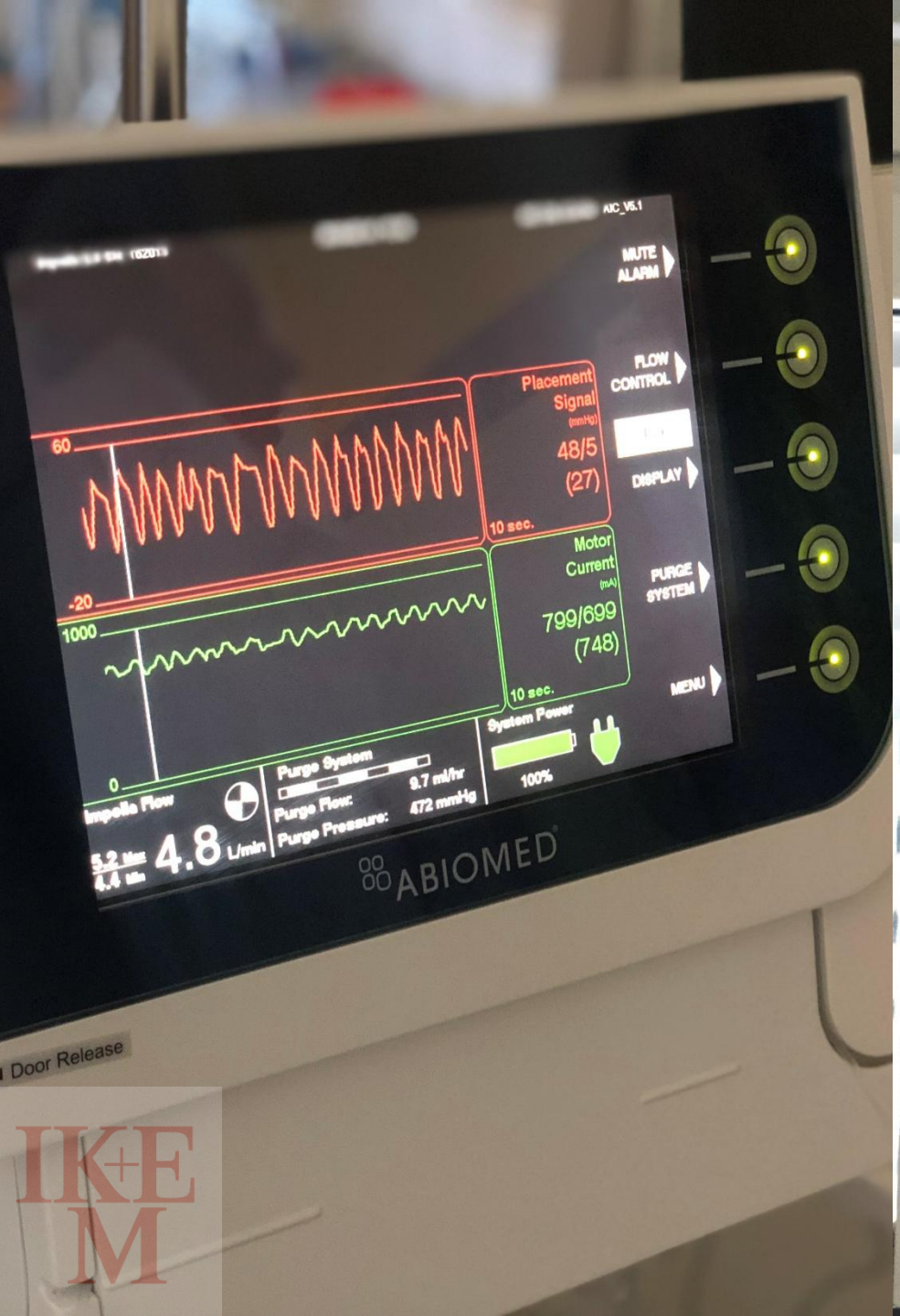

Glucose
Do Not Flush

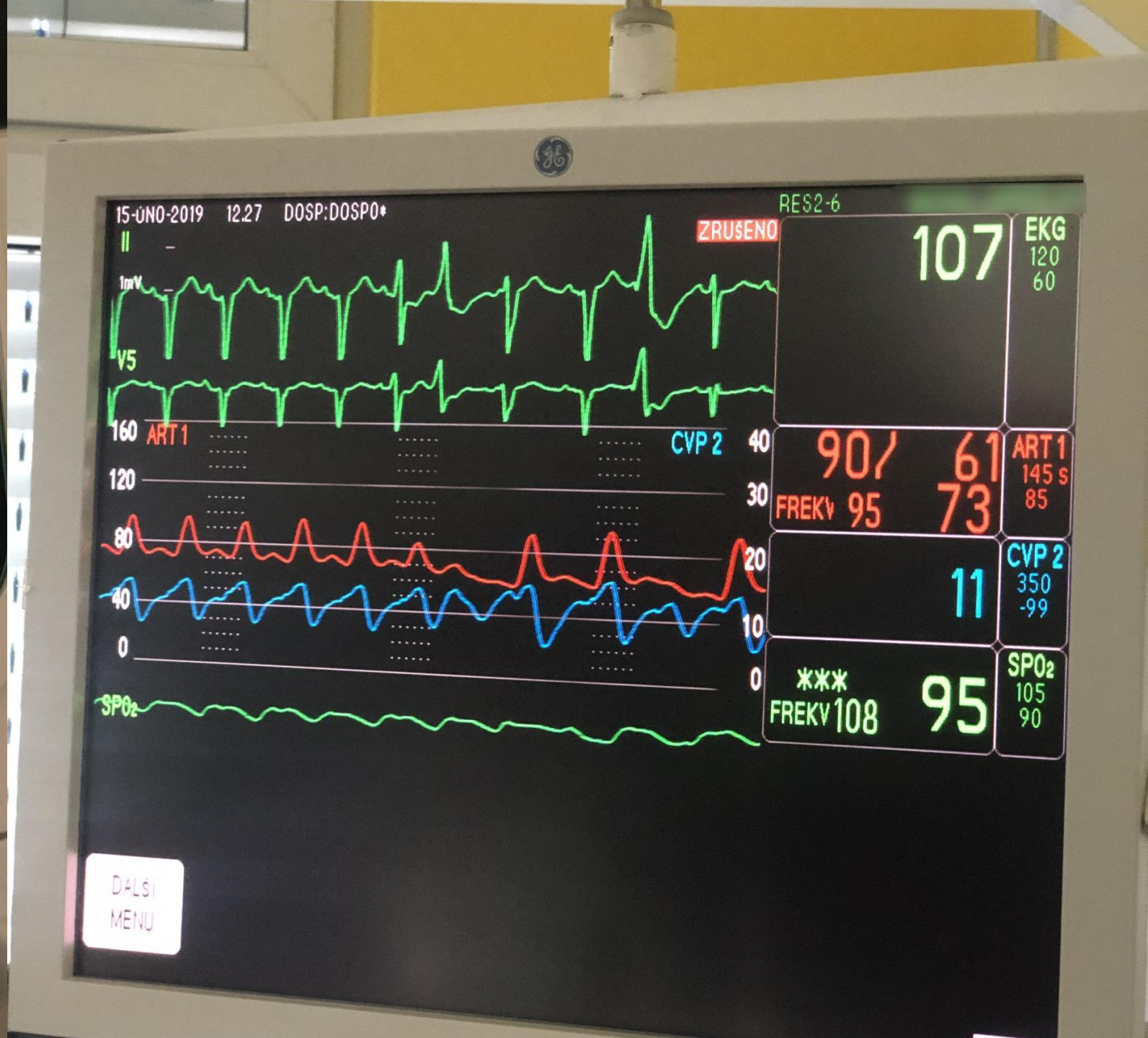

MAVIG


2/14/2019
cm 42
LAO 4° / CRAN 1°

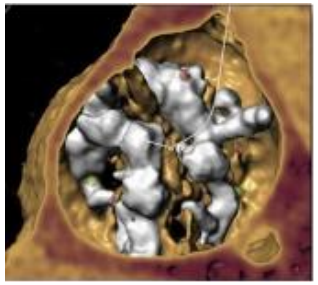
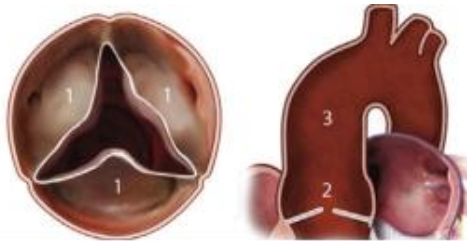



ABIOMED


MUTE ALARM
FLOW CONTROL
DISPLAY
PURGE SYSTEM
MENU
Placement Signal
48/5
(27)
10 sec.
Motor Current
799/699
(748)
10 sec.
System Power
100%
Purge System
Purge Flow:
9.7 ml/hr
Purge Pressure:
472 mmHg
4.8 L/min
ABIOMED
Door Release

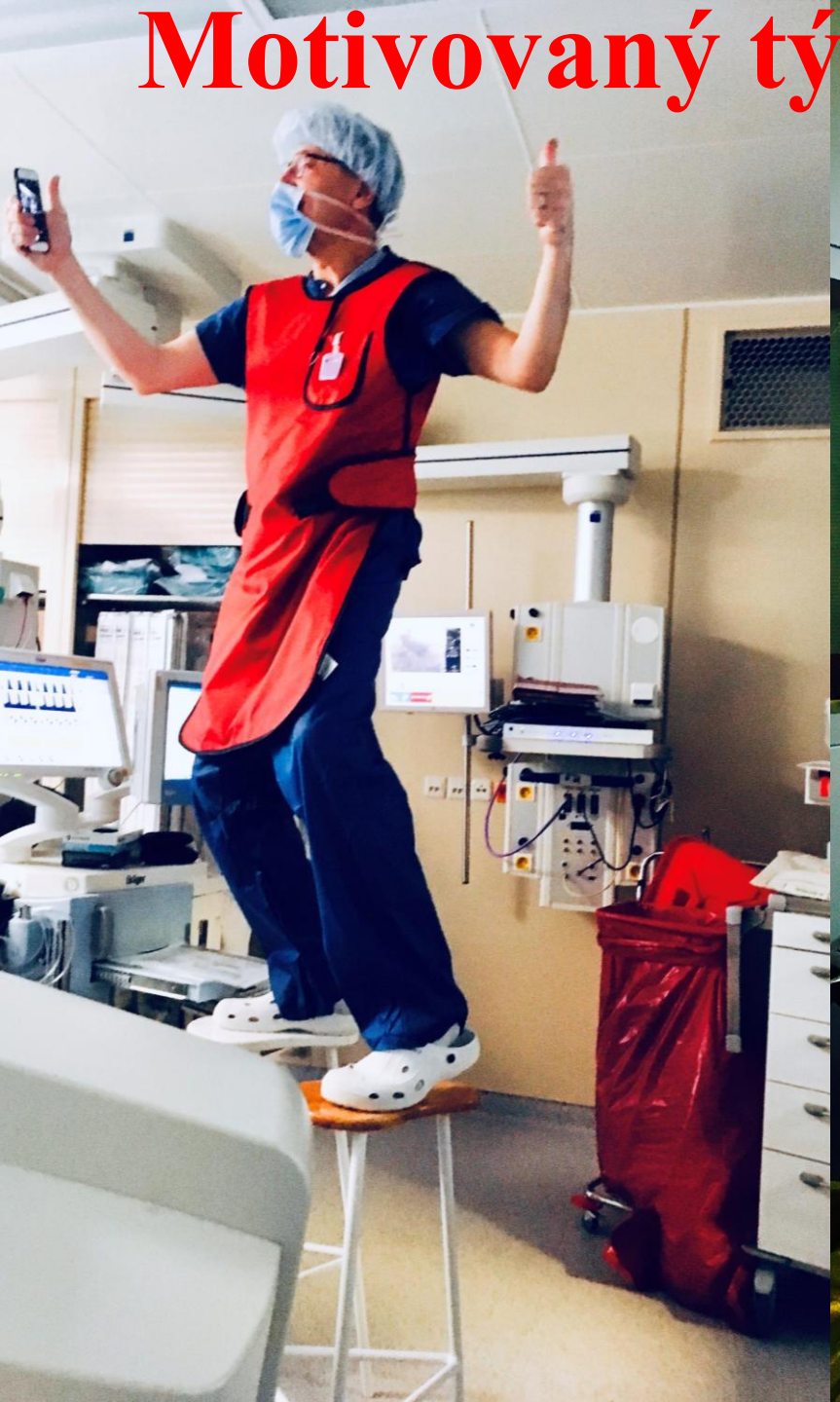

15-ÚNO-2019 12:27 DOSP:DOSPO
ZRUŠENO
RES2-6
II
1mV
V5
160
120
80
40
0
ART 1
CVP 2
40
30
20
10
0
SPO2
107
EKG
120
60
90/ 61
FREKV 95 73
ART1
145 s
85
11
CVP 2
350
-99
*** 95
FREKV 108
SPO2
105
90
DALŠÍ MENU

FUTURE OUTLOOK

EXPANDING INDICATIONS		SPECIFIC ANATOMIC CONDITIONS	
Lower risk and younger patient	PARTNER 3 (NCT02675114) Evolut R Low Risk trial (NCT02701283) NOTION-2 (NCT02825134)	Bicuspid valve disease	
Moderate AS with CHF	TAVR UNLOAD trial (NCT02661451)	Pure native aortic regurgitation	
Severe asymptomatic AS	EARLY TAVR trial (NCT03042104)	Failed surgical bioprosthesis	

In courtesy of Stephan Windecker

Motivovaný tým… nejen motivovaný jedinec



JEN FUNKČNÍ TÝM MŮŽE USPĚT