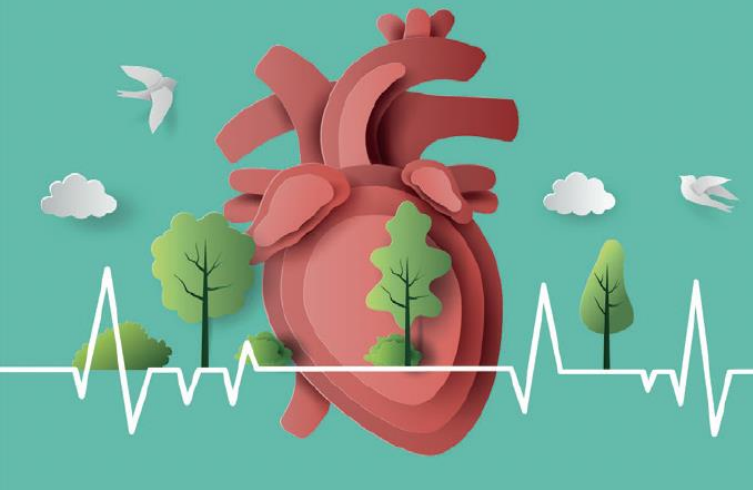

כנס מדעי בנושא:
סיכון קרדיו מטבולי והשמנת יתר
בהובלת החוגים: קרדיולוגיה בקהילה ופרמקותרפיה קרדיווסקולרית
מוקדש לזכרו של פרופ' אלכסנדר טננבאום ז"ל

יום שישי 30.12.22 | מלון דן תל אביב

TAVI vs. SAVR in obese patients

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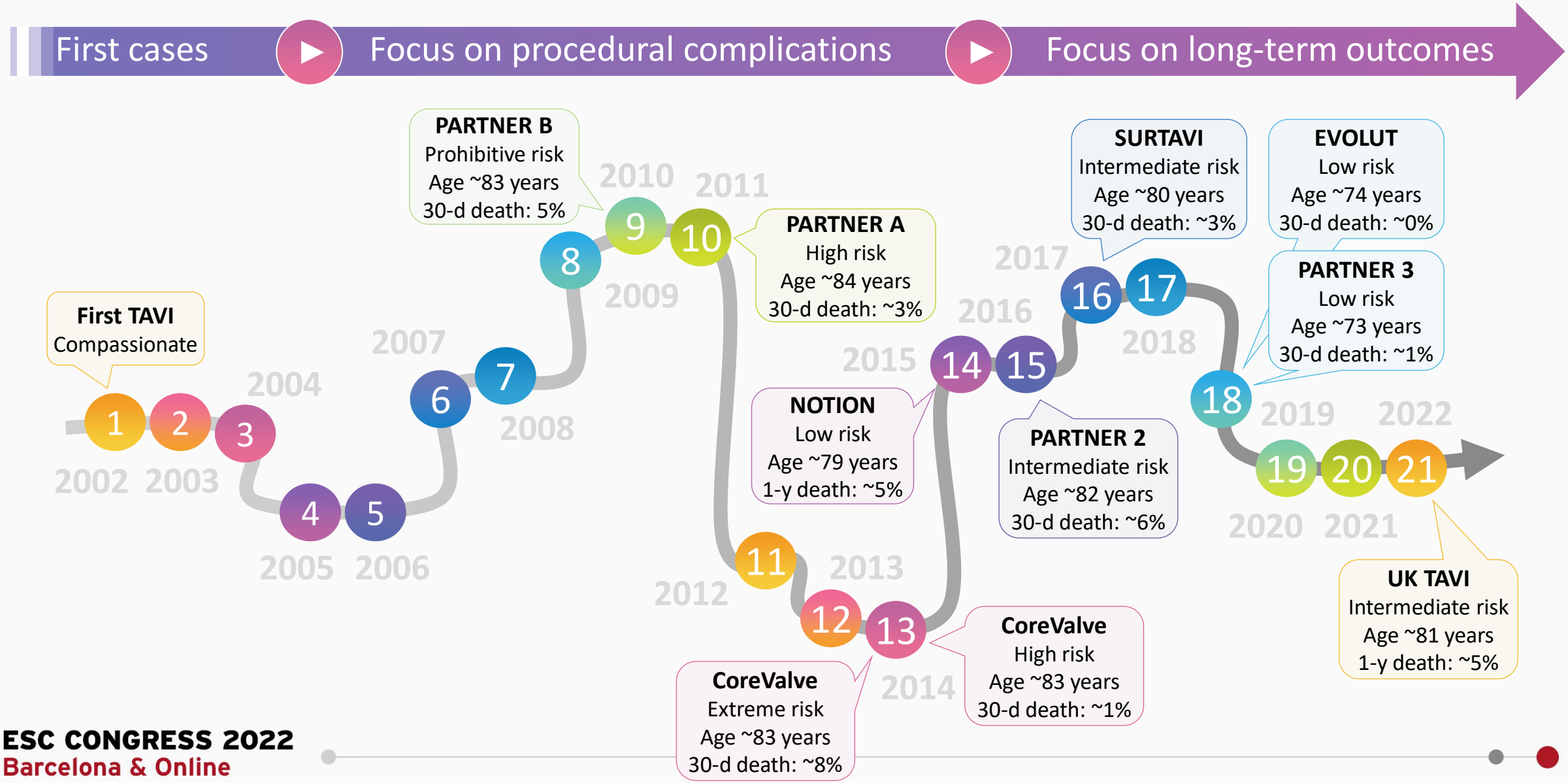
המרכז הרפואי
שערי צדק
SHAARE ZEDEK
MEDICAL CENTER

Twenty years of TAVI (2002-2022)



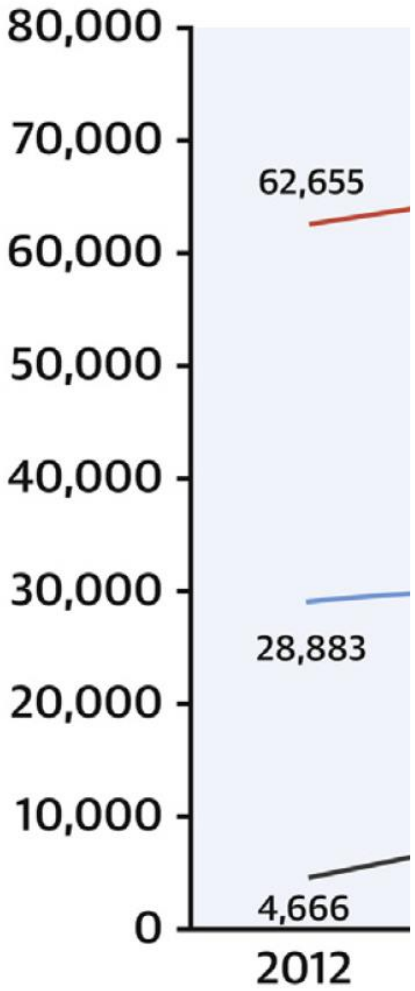
Modern TAVI procedures

- Cath lab procedure
- Conscious sedation
- 14F / 16F sheath, in ~95% TF
- 1-3 days to discharge
- No rehabilitation period
- Significant PVL <5%
- Permanent Pacemaker <10%
- Minimal med. requirements (one antiplatelet tx)
- Minimal contrast (can be none)

TAVI expansion

TAVI devices in Israel

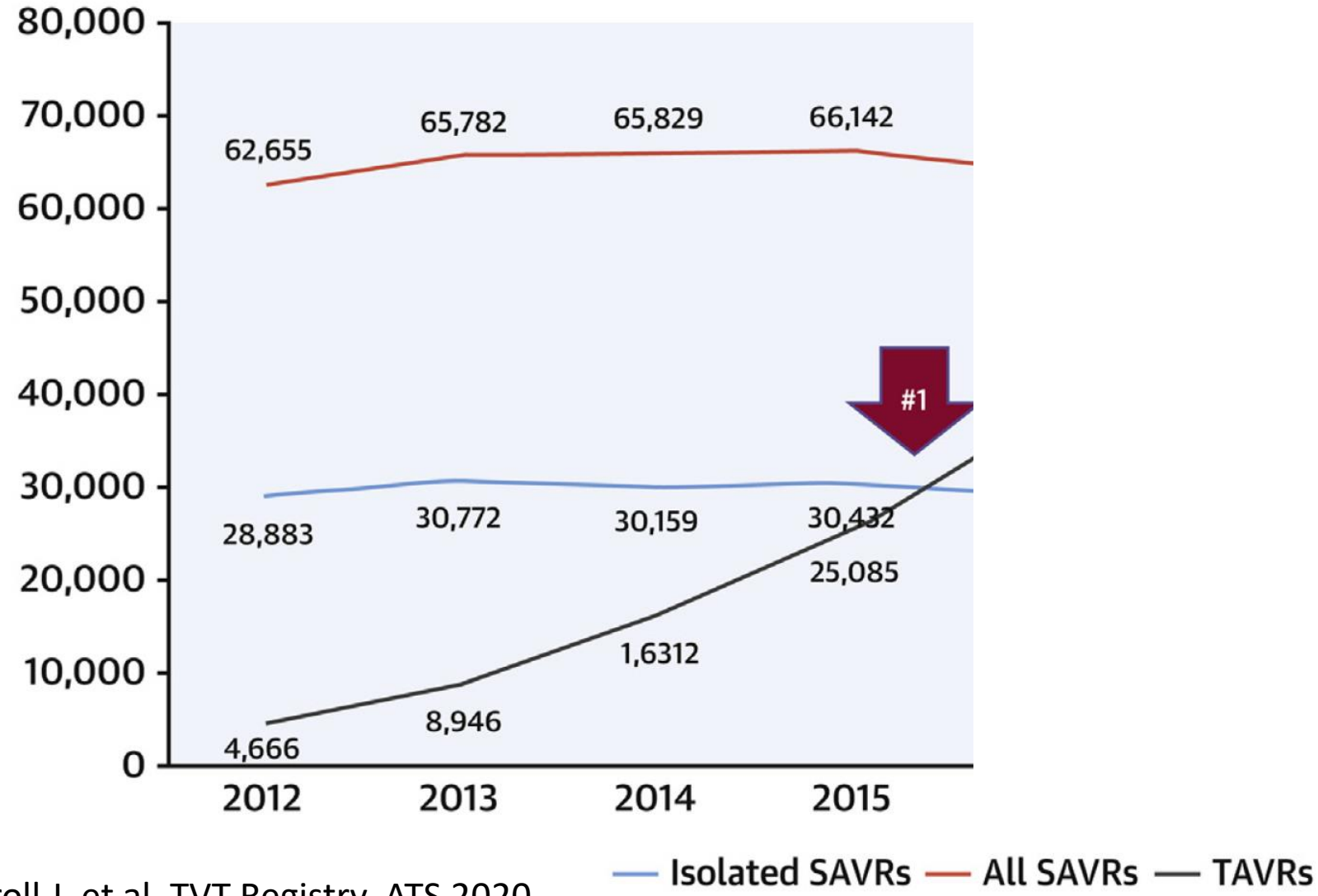
Annual volumes of TAVR and SAVR in the US



Isolated SAVRs — All SAVRs — TAVRs

Carroll J. et al. TVT Registry. ATS 2020

Annual volumes of TAVR and SAVR in the US



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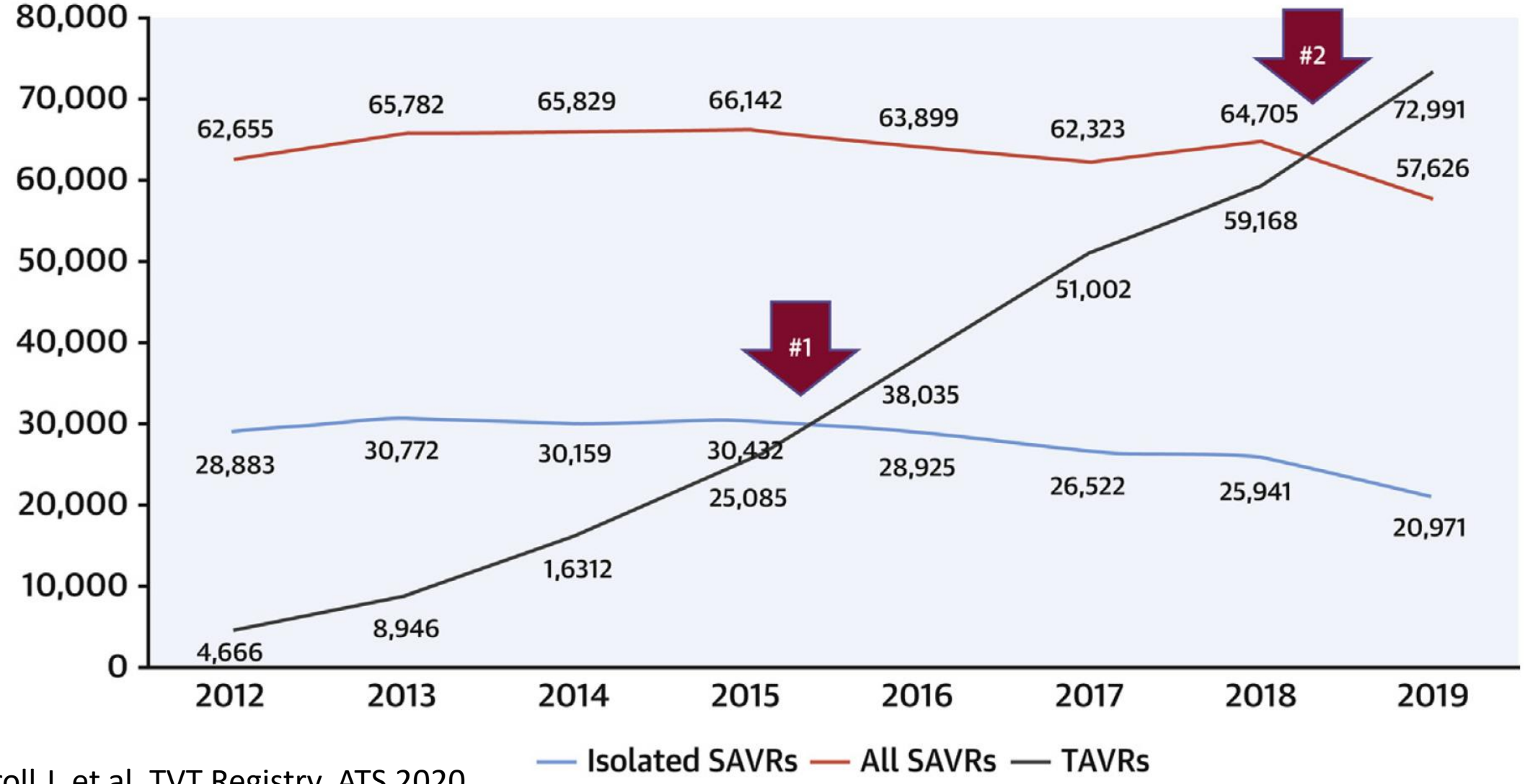
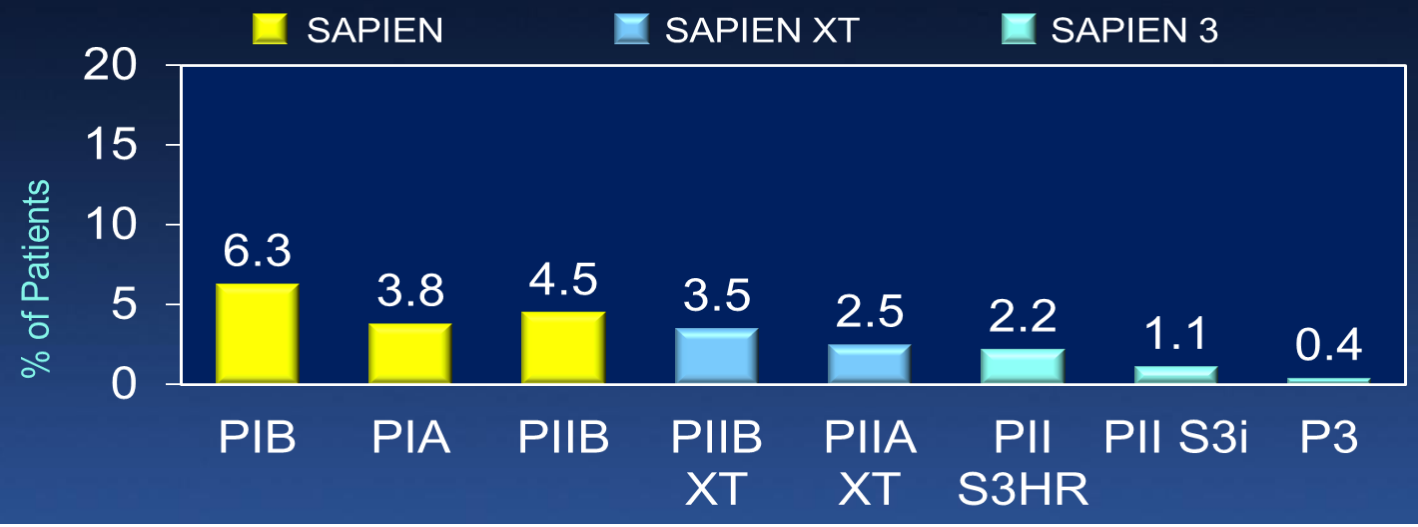
Annual volumes of TAVR and SAVR in the US



Carroll J. et al. TVT Registry. ATS 2020

Improved TAVR Clinical Outcomes

TAVR 30-day Mortality



danny.dvir@gmail.com. 054-7967367

Low risk severe AS patients' clinical outcomes

PARTNER 3 Trial

The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

Transcatheter Aortic-Valve Replacement with a Balloon-Expandable Valve in Low-Risk Patients

M.J. Mack, M.B. Leon, V.H. Thourani, R. Makkar, S.K. Kodali, M. Russo, S.R. Kapadia, S.C. Malaisrie, D.J. Cohen, P. Pibarot, J. Leipsic, R.T. Hahn, P. Blanke, M.R. Williams, J.M. McCabe, D.L. Brown, V. Babaliaros, S. Goldman, W.Y. Szeto, P. Genereux, A. Pershad, S.J. Pocock, M.C. Alu, J.G. Webb, and C.R. Smith, for the PARTNER 3 Investigators*

EVOLUT Low Risk Trial

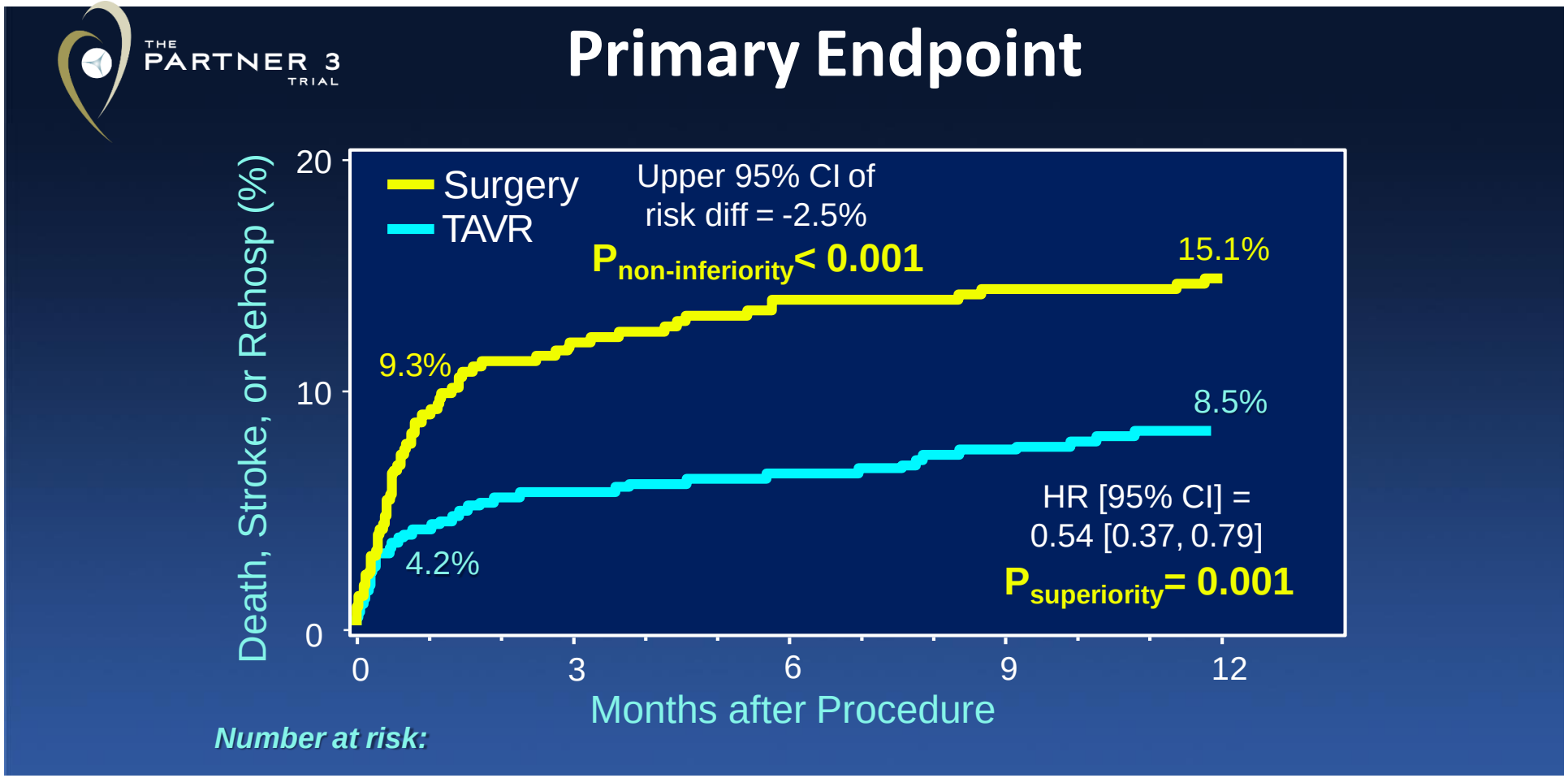
The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

Transcatheter Aortic-Valve Replacement with a Self-Expanding Valve in Low-Risk Patients

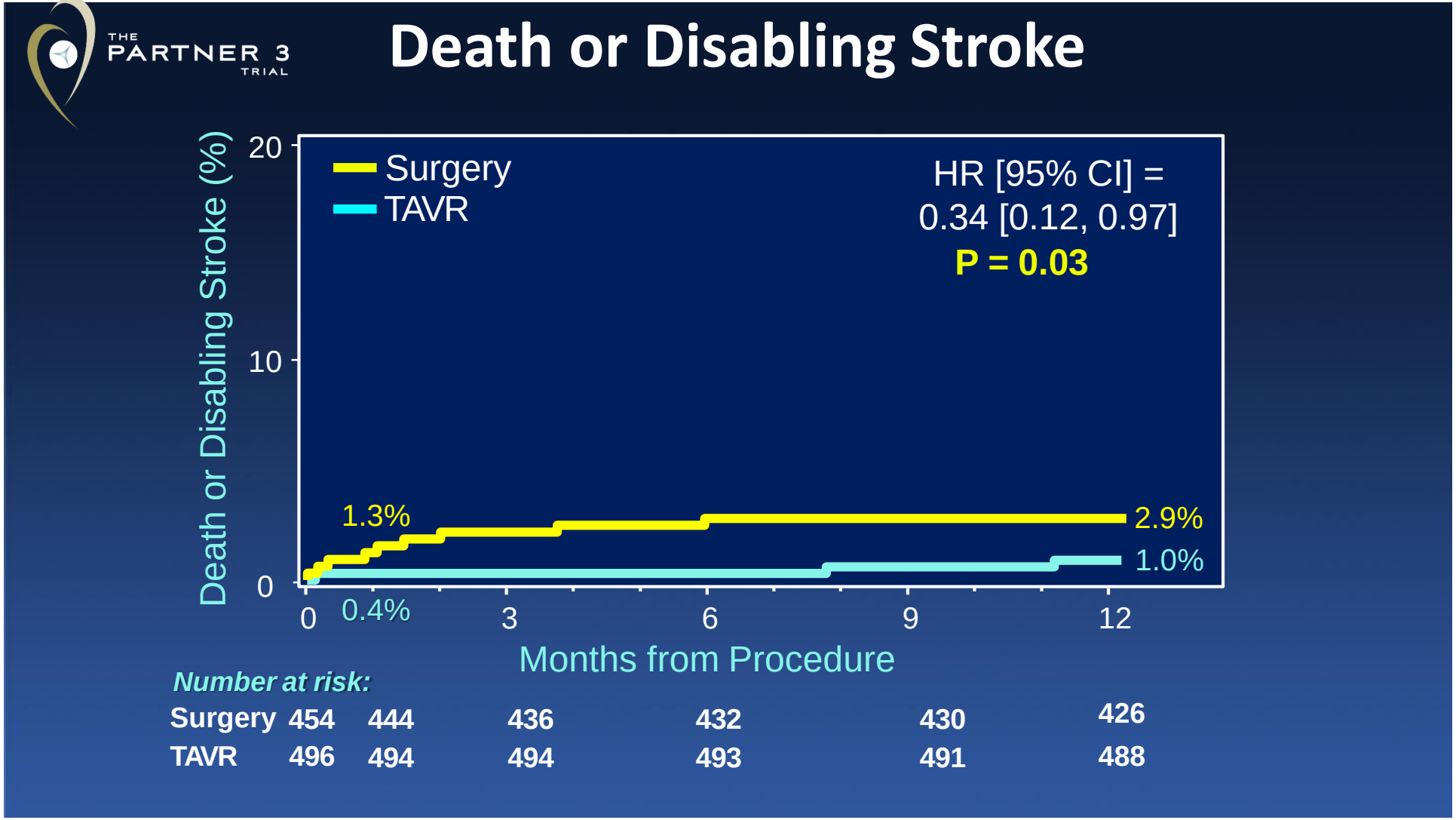
Jeffrey J. Popma, M.D., G. Michael Deeb, M.D., Steven J. Yakubov, M.D., Mubashir Mum , Tanvir Bajwa, M.D., John C. Heiser, Judah Askew, M.D., Paul S cuti, M.D., David H. A Zorn III, M.D., John K. Forrest itony Walton, M.D., Nicolo Piaz obinson, M.D., George F K. Oh, M.D., Michael J. Bc . Mugglin, Ph.D., and Micha l Investigators*

Low risk severe AS patients' clinical outcomes



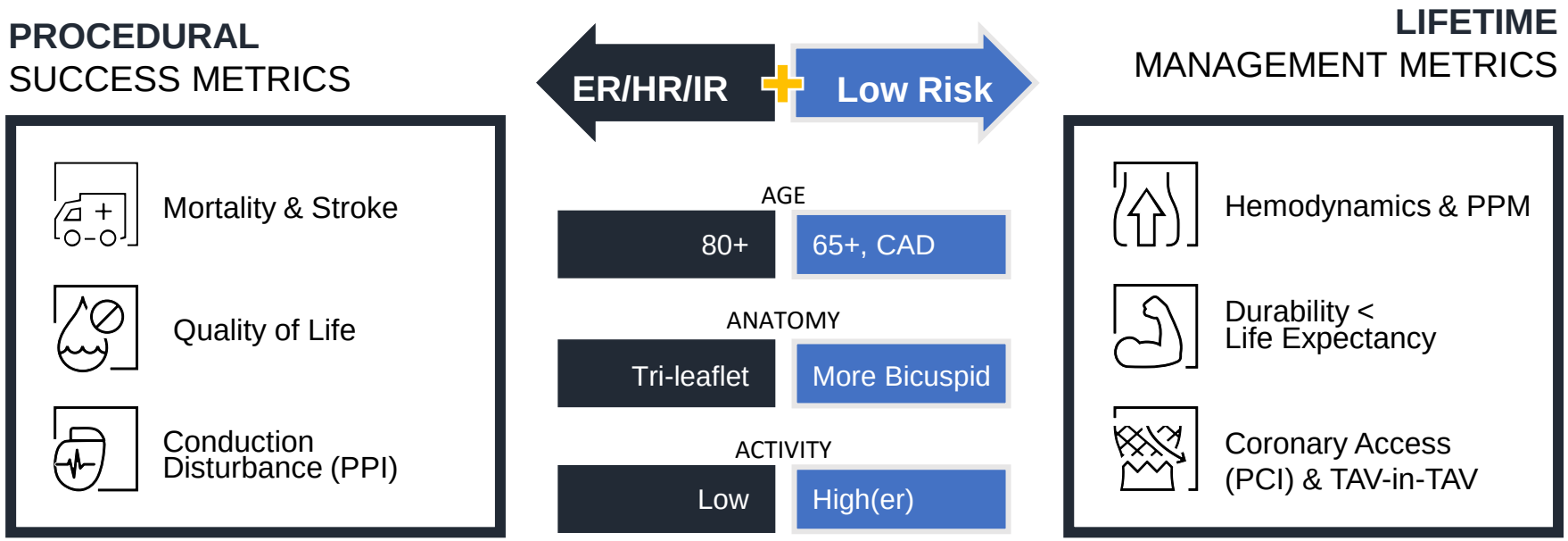
N Engl J Med 2019; 380:1695-1705

Low risk severe AS patients' clinical outcomes



N Engl J Med 2019; 380:1695-1705

New priorities in the era of low-risk TAVI procedures

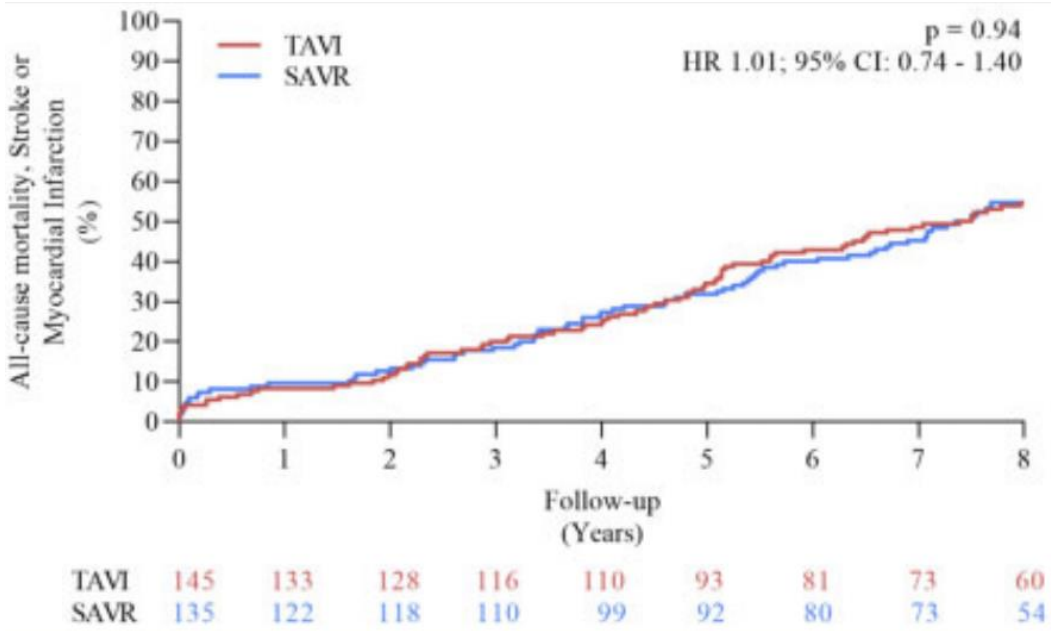


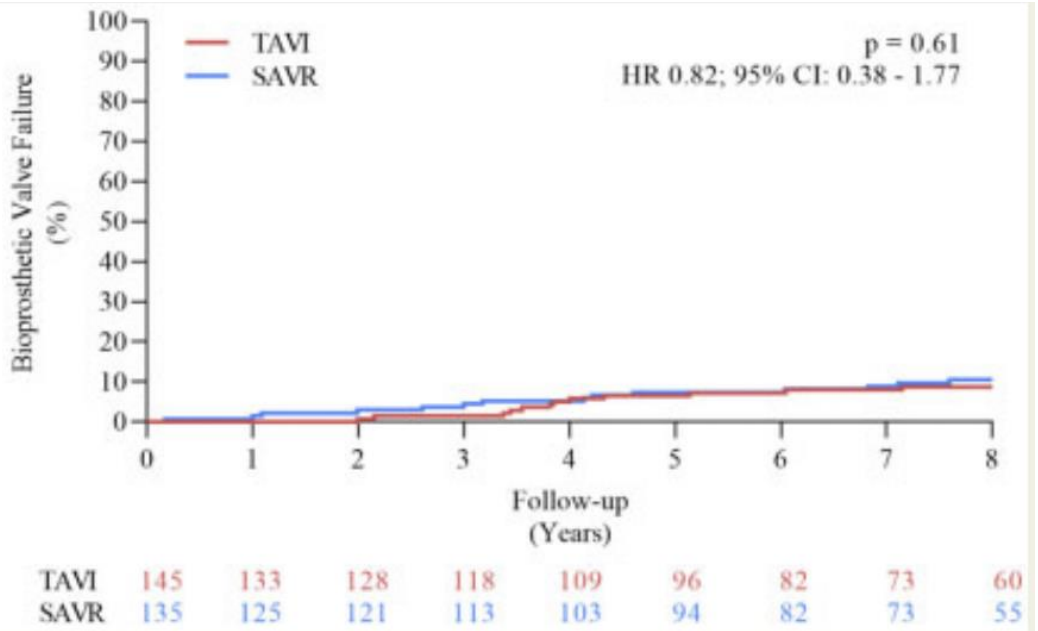
TAVI expansion

המרכז הרפואי שערי צדק
SHAARE ZEDEK MEDICAL CENTER

8-Year Durability of TAVR vs SAVR in Lower risk Patients

NOTION: patients at low surgical risk randomized to TAVI (CoreValve) or SAVR

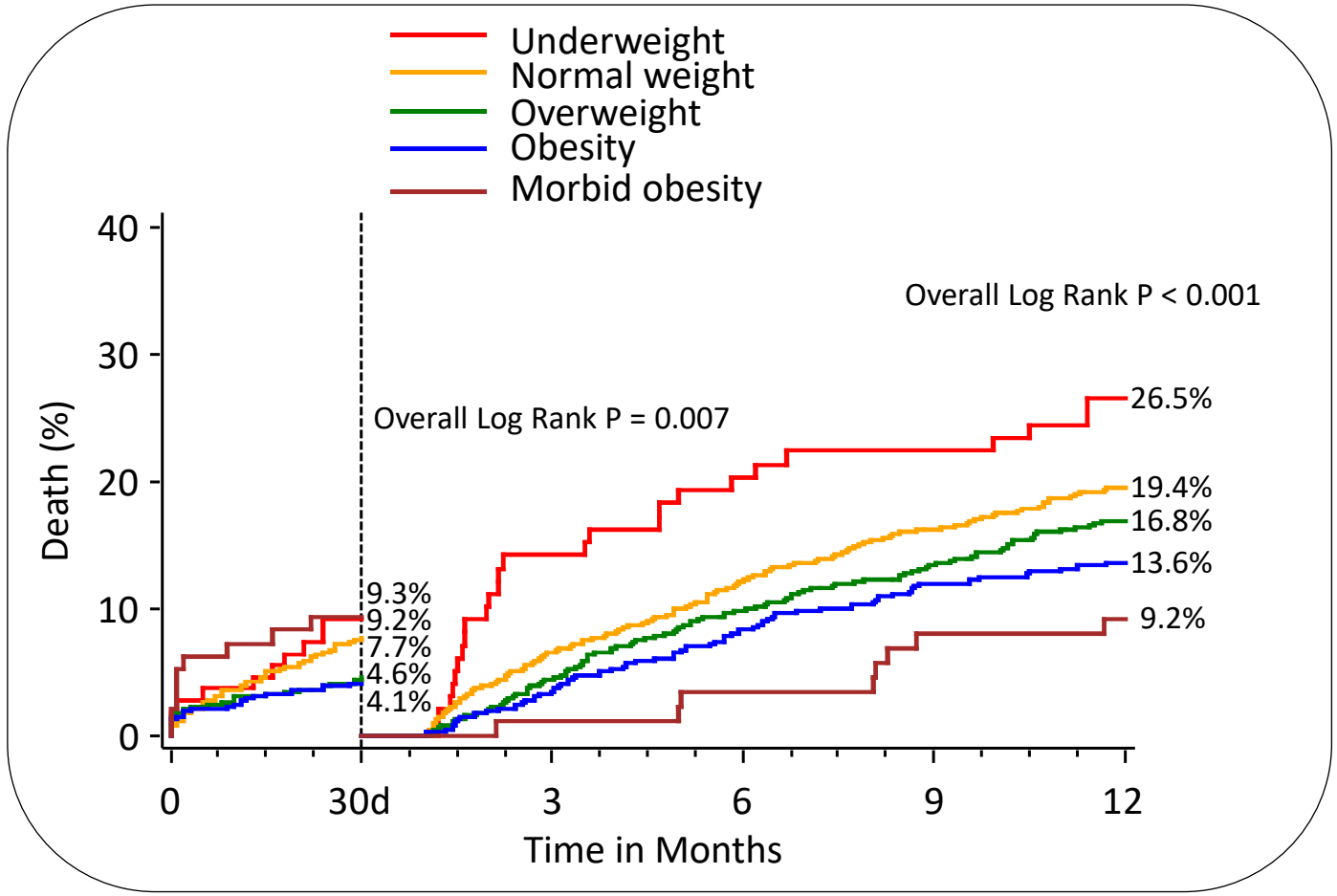




European Heart Journal (2021) 42, 2912–2919

danny.dvir@gmail.com. 054-7967367

TAVR Patients All-Cause Mortality Landmark

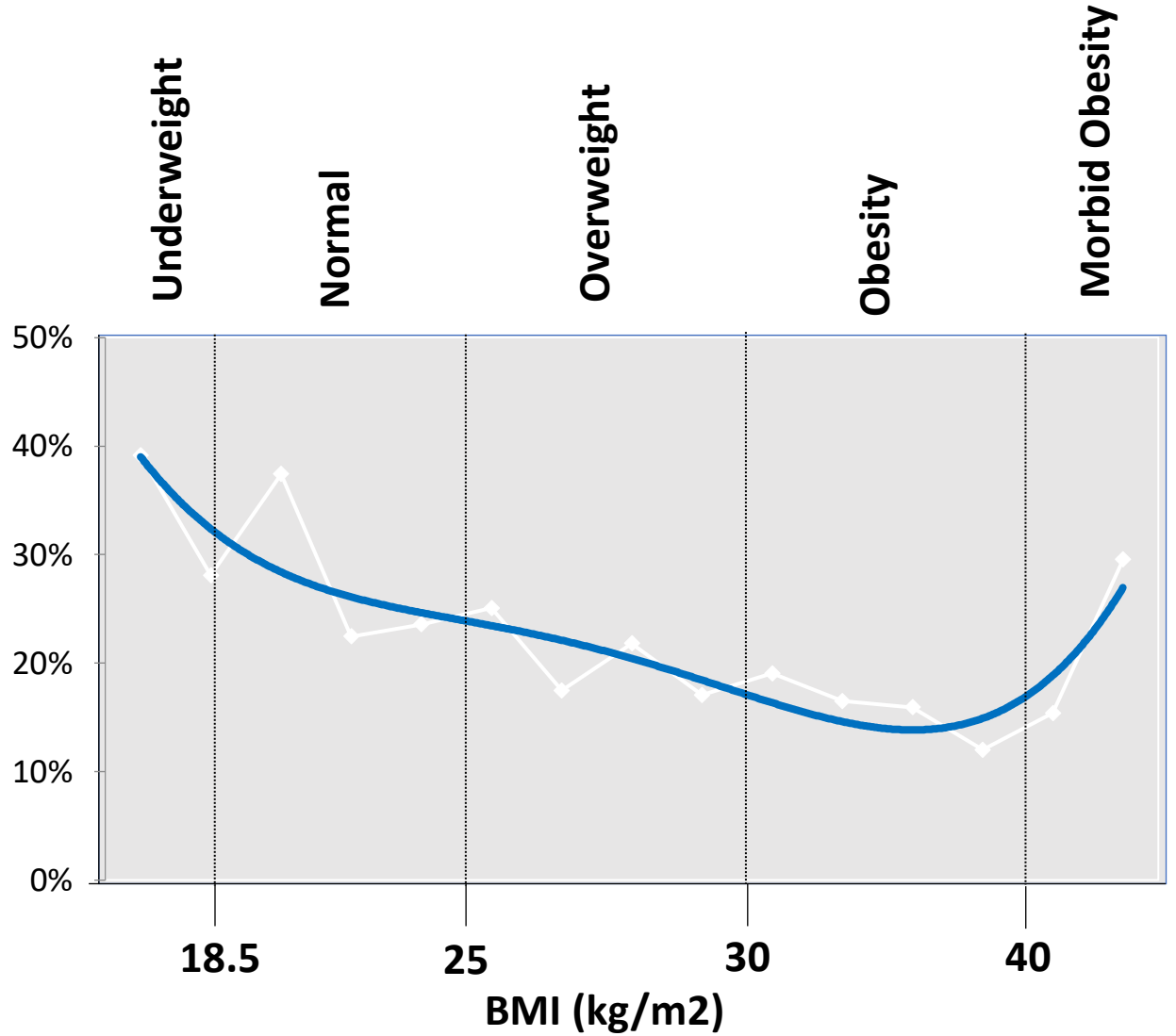


Number at Risk:

Underweight	109	99	85	78	75	68
Normal Weight	1,029	948	880	817	773	681
Overweight	800	762	725	676	641	557
Obesity	484	464	446	418	398	351
Morbid obesity	97	88	87	85	80	75

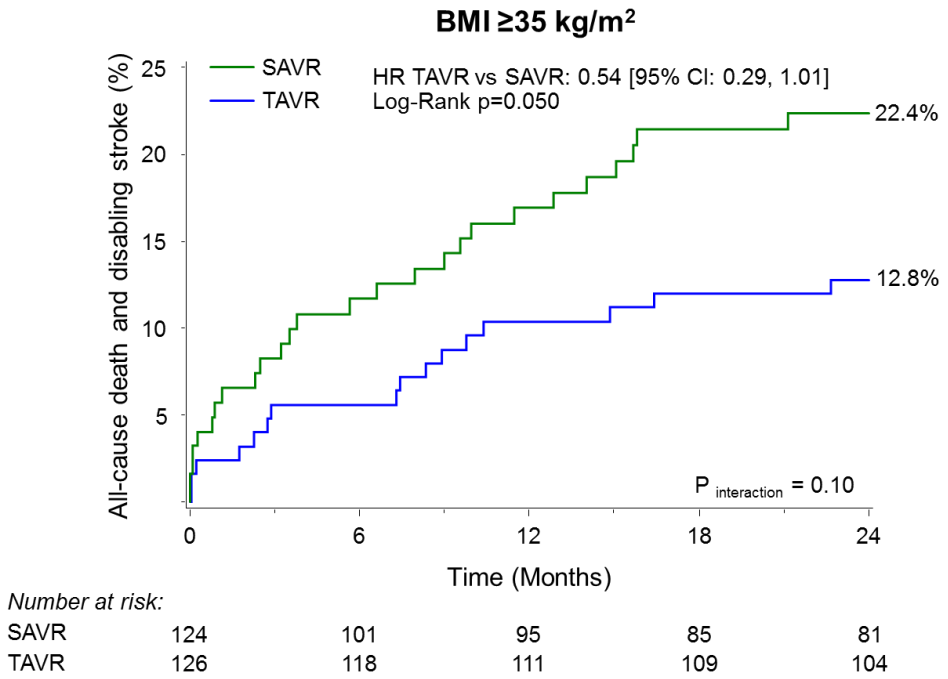
Dvir D. TCT 2014

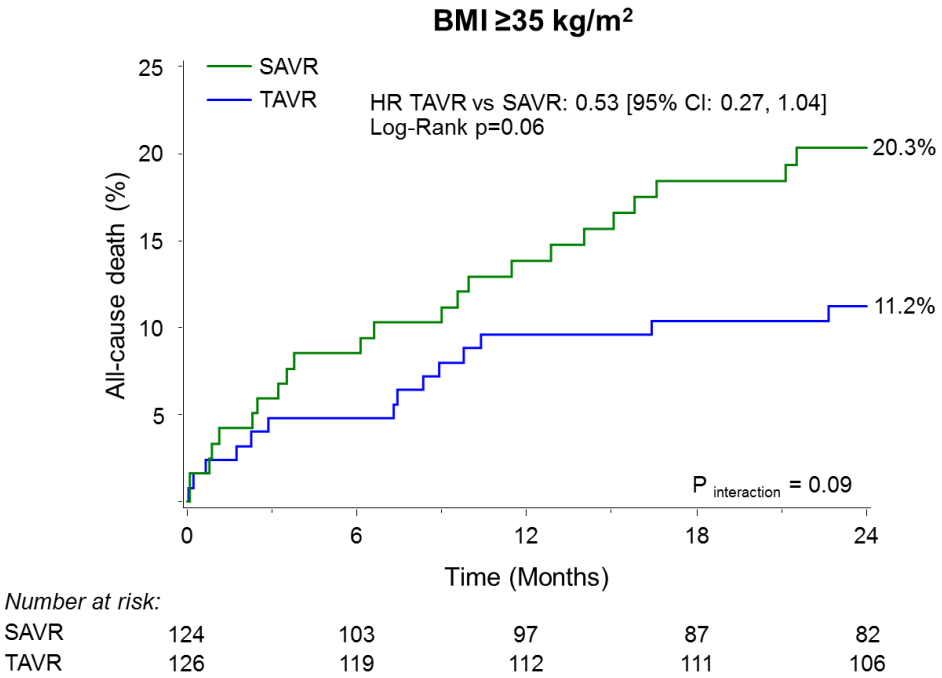
1-Year Mortality Post TAVR



Dvir D. TCT 2014

TAVI in obese patients





Dvir D. TCT 2014

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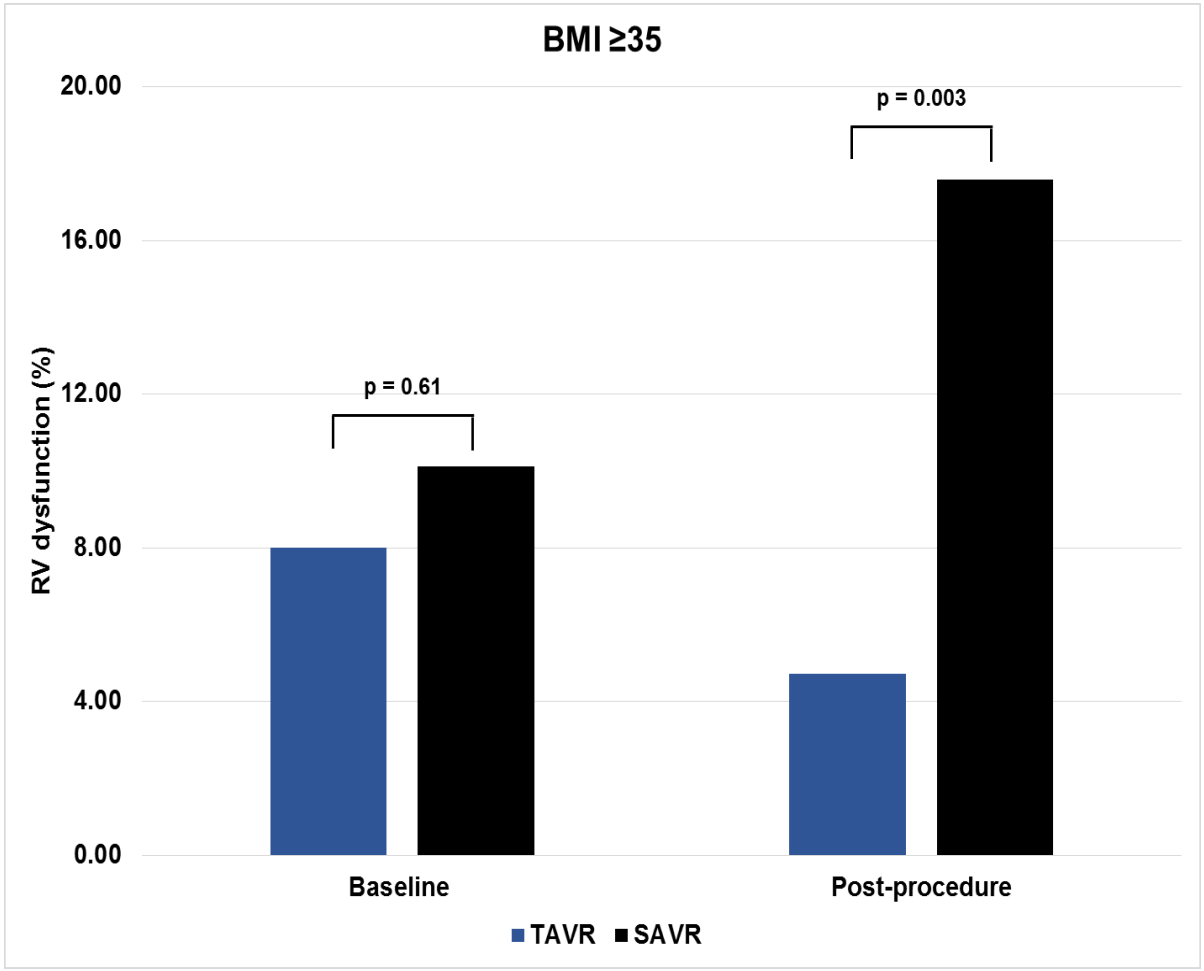
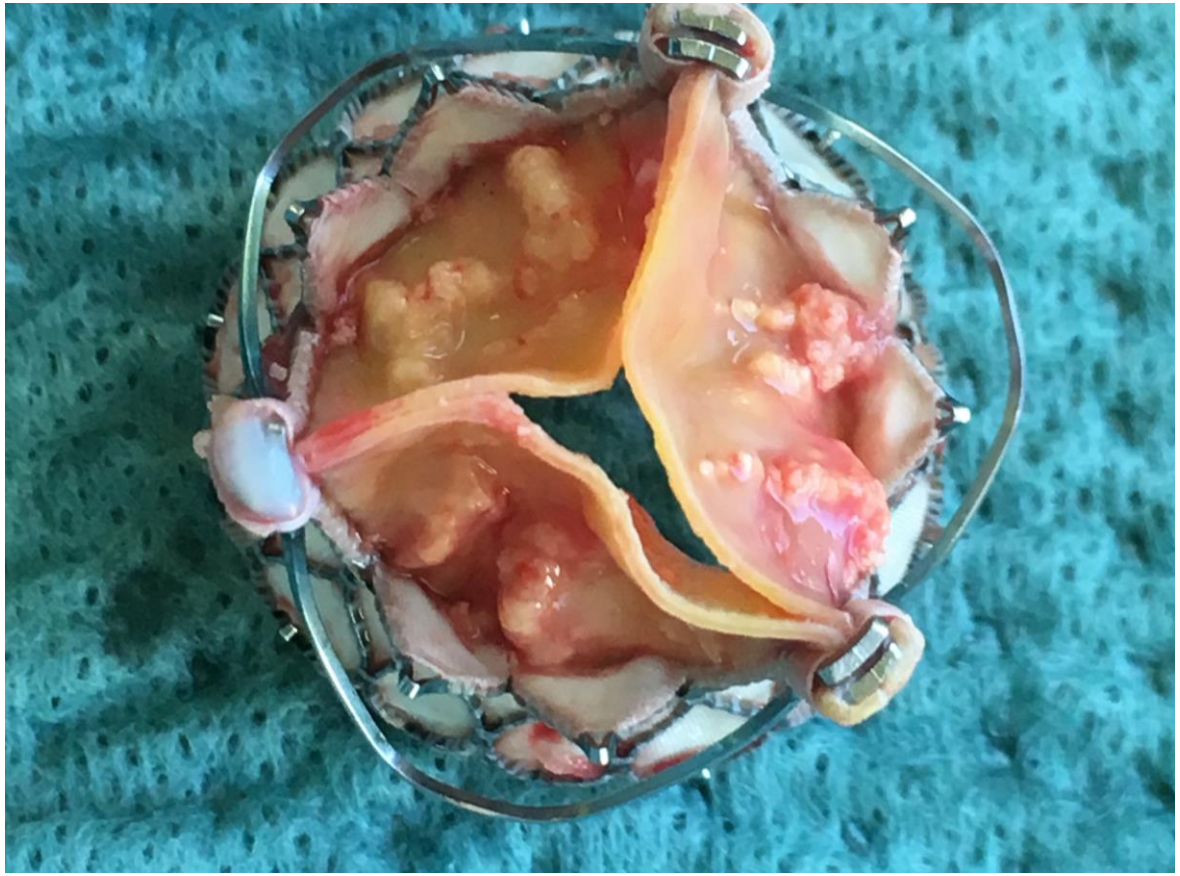


Dvir D. TCT 2014

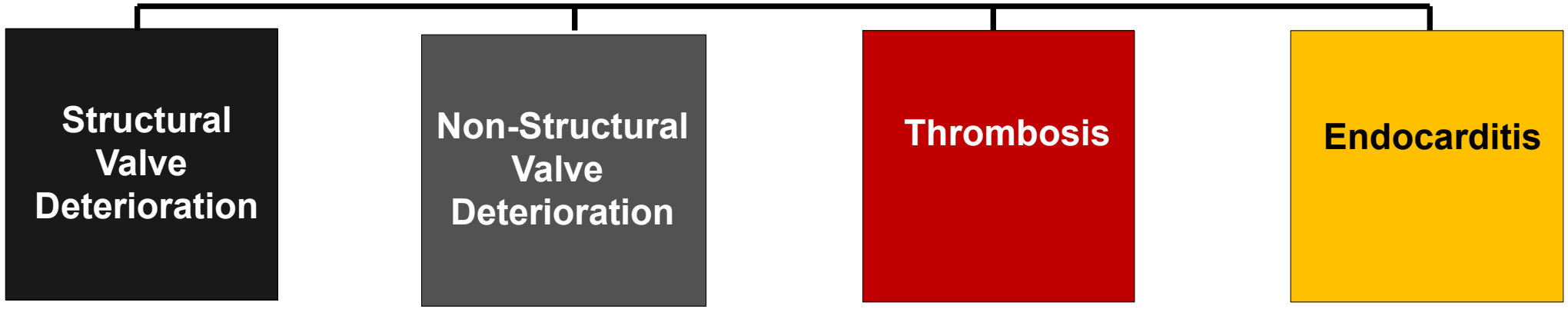
A major limitation of all tissue valves

Structural Valve Degeneration (SVD)



Engager THV

Bioprosthetic Valve Dysfunction



Intrinsic permanent changes of the prosthetic valve (i.e., calcification, leaflet fibrosis, tear or flail) leading to degeneration and/or hemodynamic dysfunction

Any abnormality not intrinsic to the prosthetic valve itself (i.e., intra- or para-prosthetic regurgitation, prosthesis malposition, patient-prosthesis mismatch, late embolization) leading to degeneration and/or dysfunction

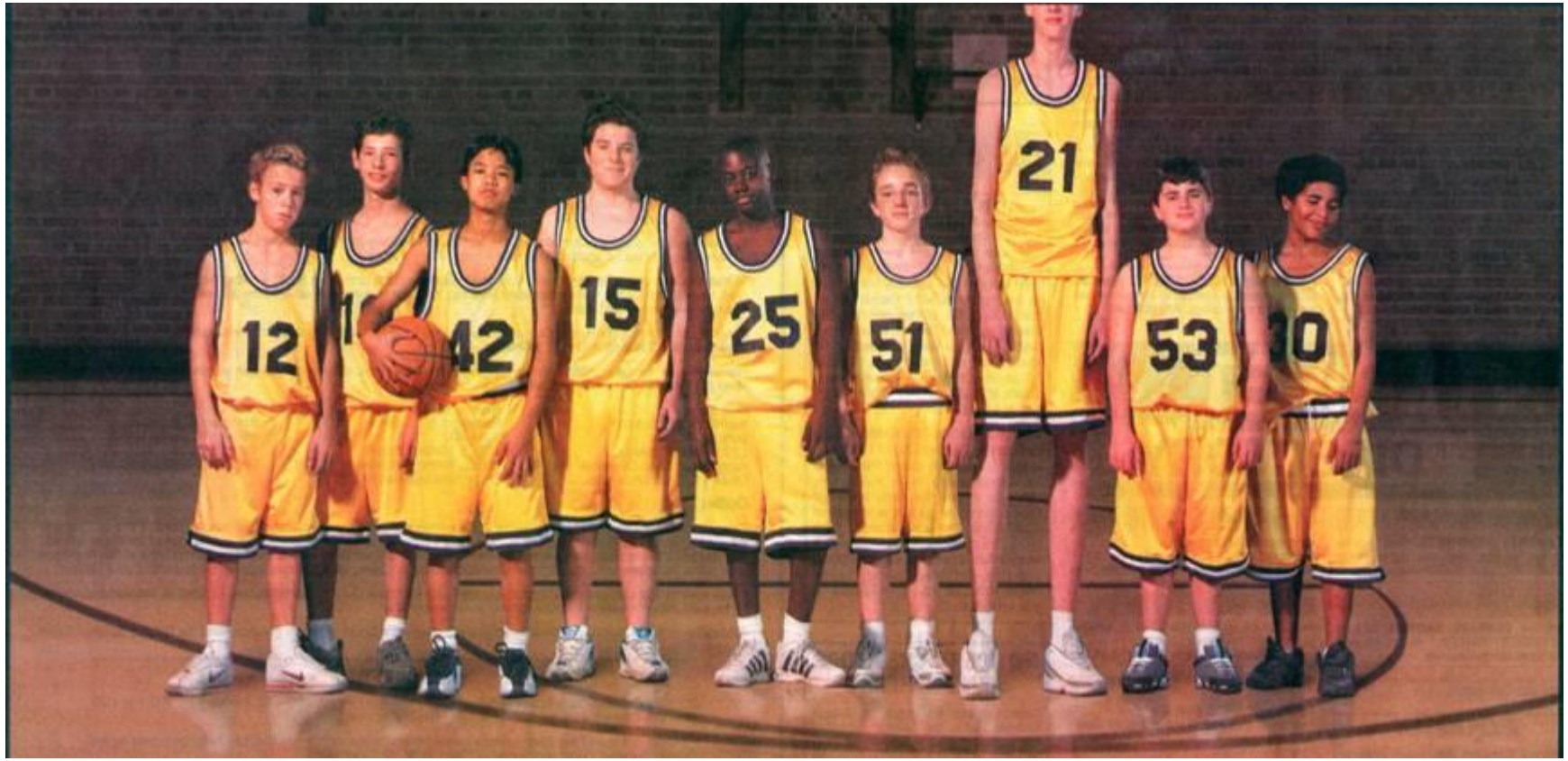
Thrombus development on any structure of the prosthetic valve, leading to dysfunction with or without thrombo-embolism

Infection involving any structure of the prosthetic valve, leading to perivalvular abscess, dehiscence, pseudo-aneurysms, fistulae, vegetations, cusp rupture or perforation

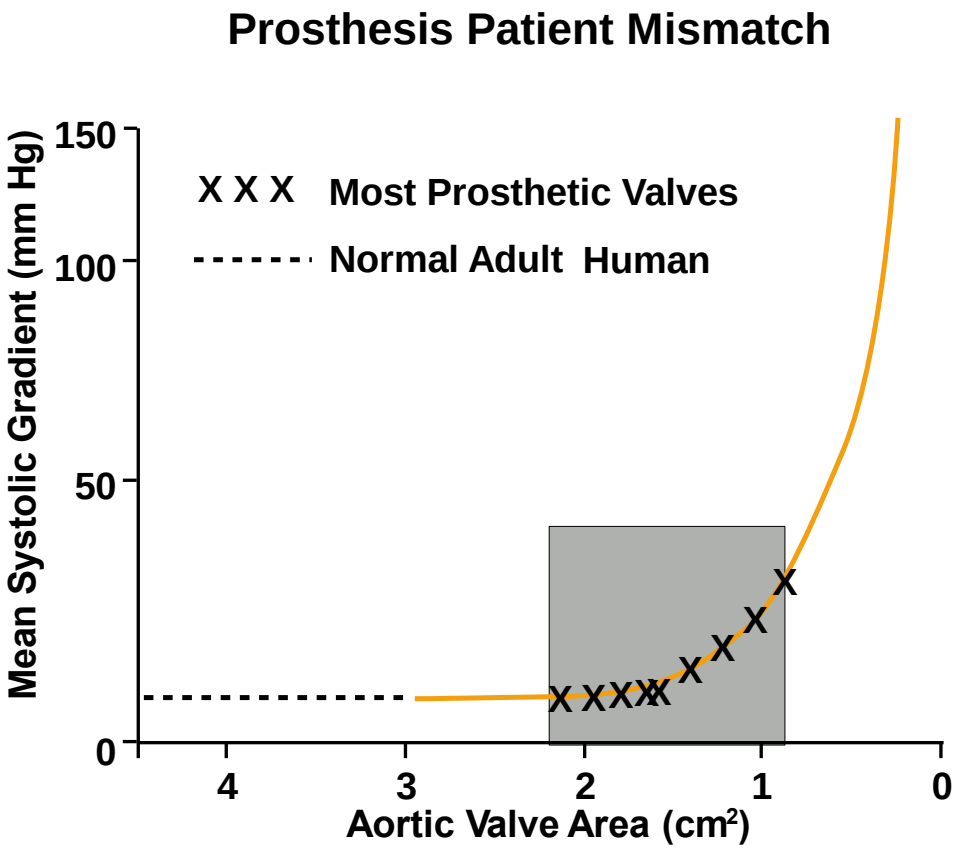
Capodanno D, et al. *Eur J Cardiothorac Surg*. 2017;52:408-417.

Tissue valve degeneration

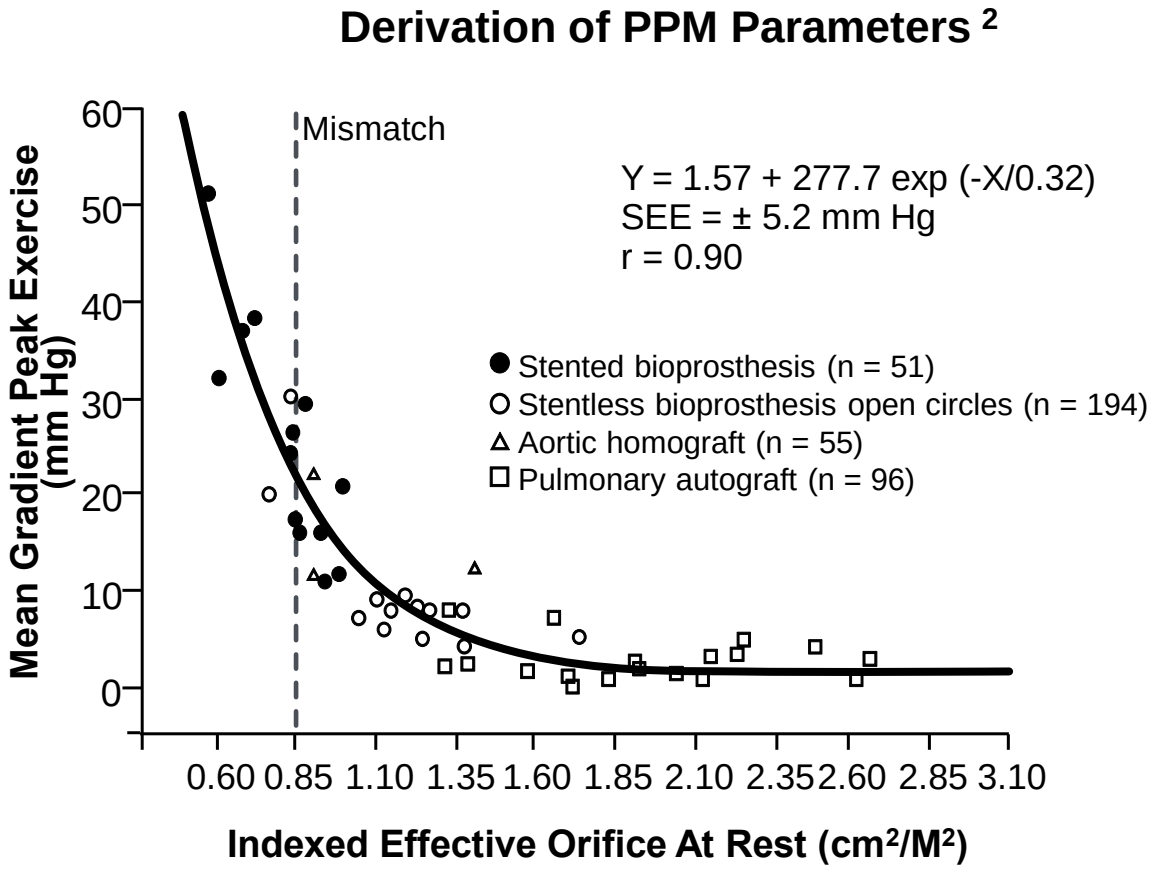
We are not created equal in terms of body size and aortic annulus size !



SHAHBUDIN H. RAHIMTOOLA, M.D.



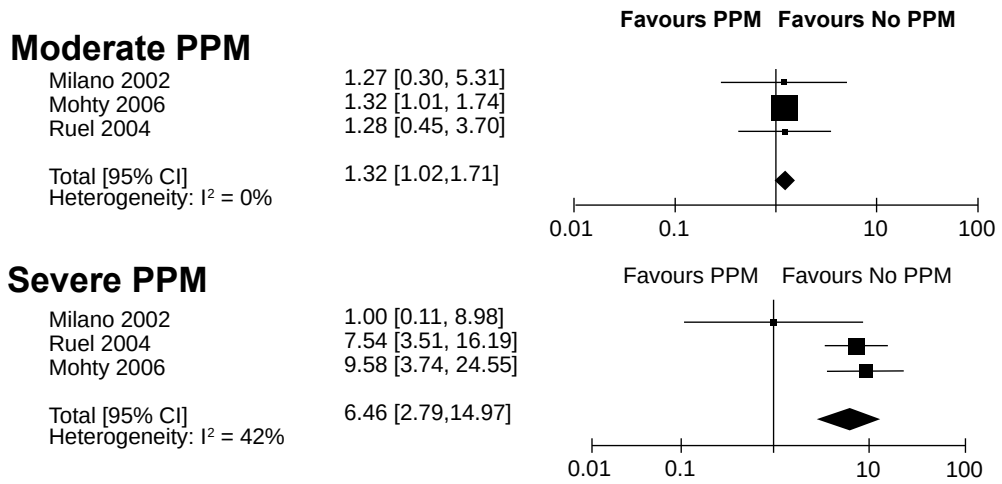
[1] Rahimtoola SH. et al. *Circulation*. 1978; 58 (1): 20-24.



[2] Pibarot P, et al. *J Am Coll Cardiol*. 2000;36:1131-1141.

Stuart J. Head, Mostafa M. Mokhles, Ruben L.J. Osnabrugge, Philippe Pibarot, Michael J. Mack, Johanna J.M. Takkenberg, Ad J.J.C. Bogers, and Arie Pieter Kappetein

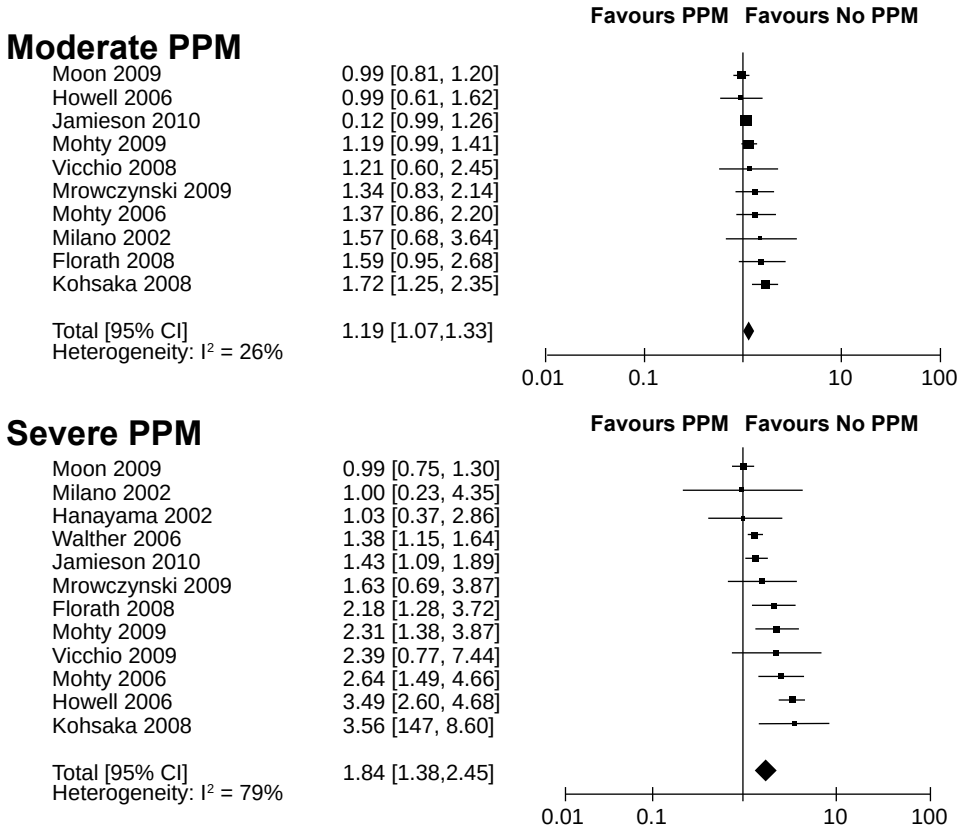
Cardiac Mortality



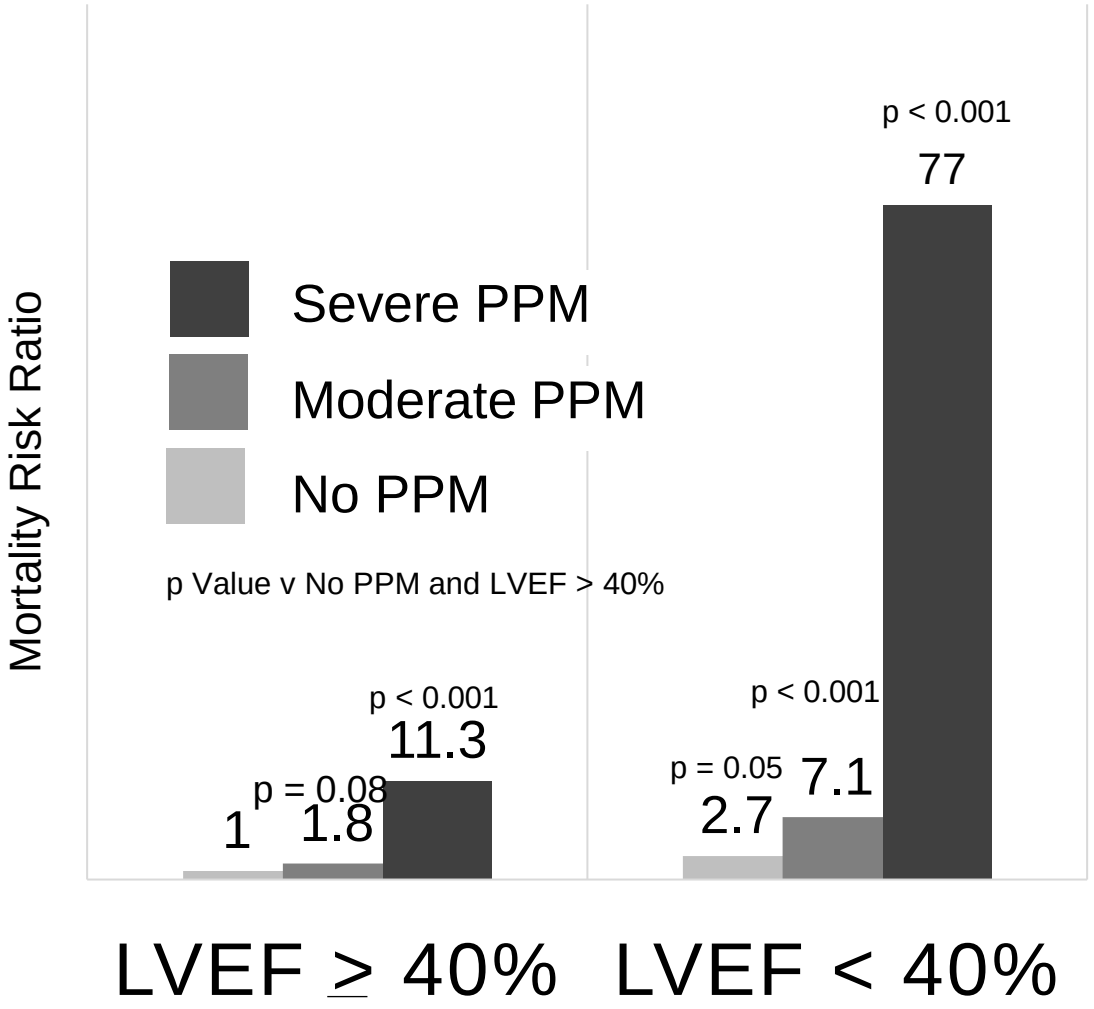
Pooled estimate for cardiac-related mortality: ratios demonstrate the additional hazard with prosthesis-patient mismatch in relation to a prosthesis-patient mismatch reference group. Studies that stratified results according to the severity of prosthesis-patient mismatch are analyzed individually. HR, hazard ratio; CI, confidence interval; PPM, prosthesis-patient mismatch.

Source: Head SJ, et al. *Eur Heart J.* 2012;33:1518-1529.

All-cause Mortality

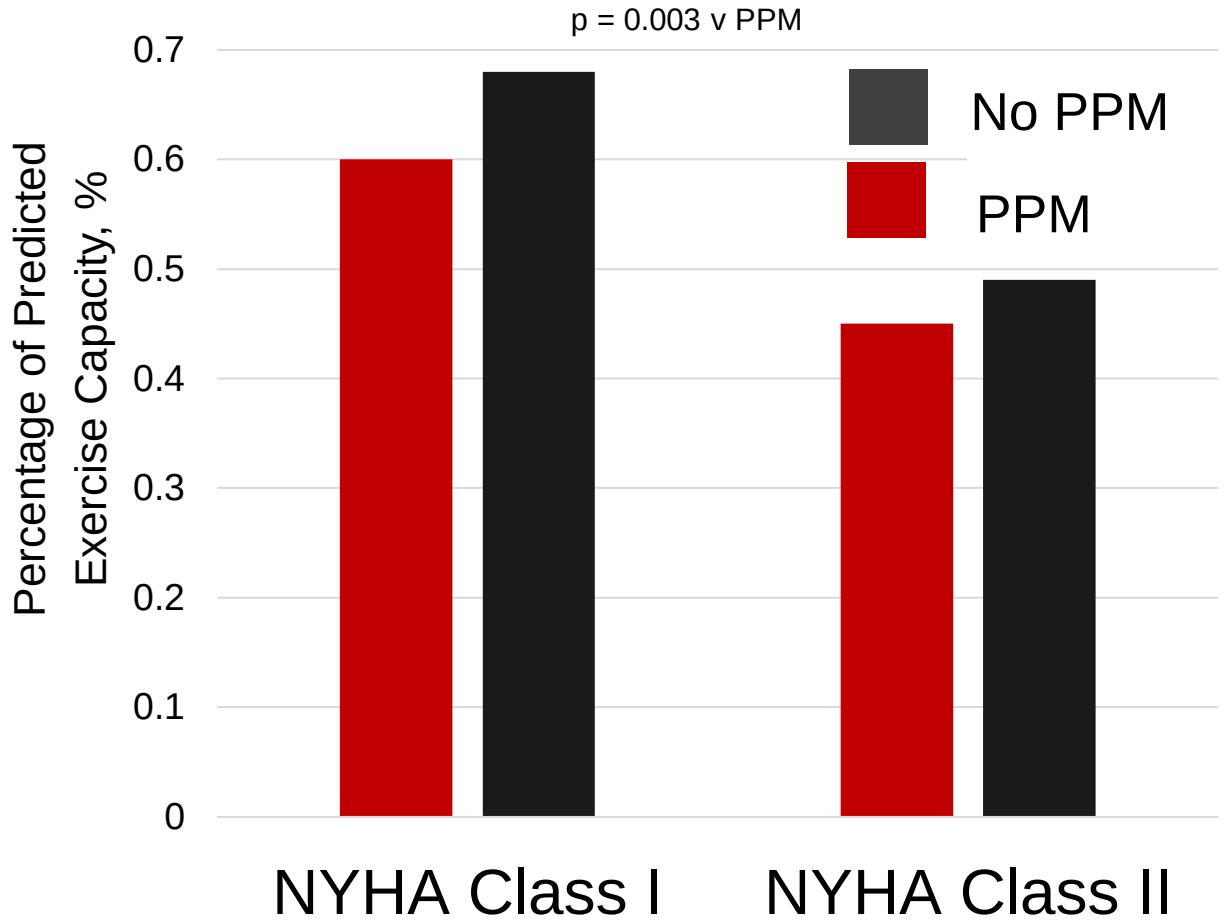


Clinical Importance of PPM and LV Dysf.

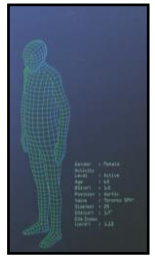


Blais C. et al. *Circ.* 2003;108:938-988

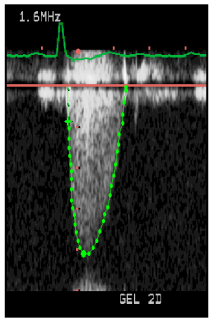
PPM Predicts Reduced Exercise Capacity



Bleiziffer S. et al. *Heart.* 2008;94:637-641.



PPM: A Triple Trouble



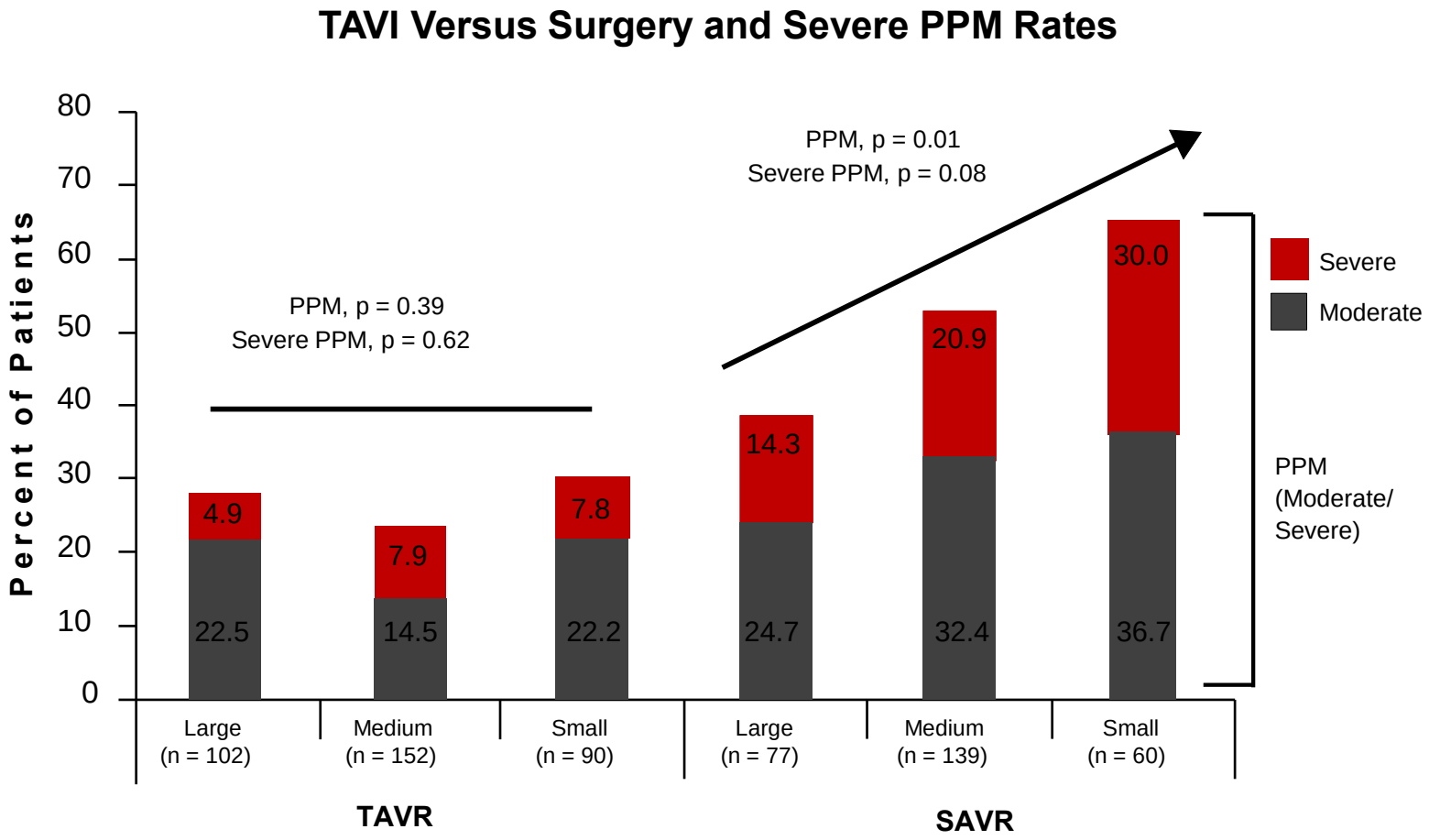
1. **Severe PPM is associated with increased risk of mortality and heart-failure rehospitalization after AVR**

2. **PPM may accelerate the structural degeneration of bioprostheses**

3. **Pre-existent PPM may compromise the hemodynamic and clinical outcomes after VinV**

THE COREVALVE™ HIGH RISK TRIAL

HEMODYNAMICS IN THE SMALLEST ANNULI



Source: Deeb GM, et al. *Ann Thorac Surg*. 2018;105:1129-1136.

Conclusions

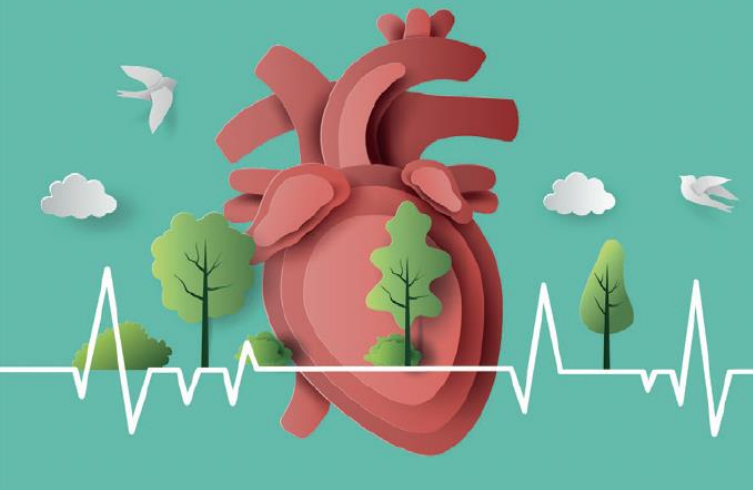
- TAVI in obese patients is associated with superb clinical outcomes (almost consistently superior to SAVR).
- A challenge in obese patients undergoing valve replacement is severe PPM.
- TAVI (instead of SAVR) can dramatically reduce the risk of severe PPM in obese patients having valve replacement.

Main message

- **In my view, TAVI should be considered the tx of choice in obese patients**

unless there is either:

- A specific challenge in performing TAVI in a particular patient
- The patient is young and considered for SAVR with a mechanical valve



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