Higher SYNTAX Score is Not Predictive of Late Mortality in "Real-World" Patients With Multivessel CAD Undergoing CABG.

Paul Fefer, Eran Kopel, Sharon Gannot, Ksenya Kuchkina, Dan Elian, Ehud Raanani, Victor Guetta, and Amit Segev

Heart Center, Sheba Medical Center, Tel Hashomer

Sheba Medical Center
Tel Hashomer

The Leviev Heart Center

Background

- The SYNTAX Score is a unique tool to score complexity of coronary artery disease.

- The SYNTAX scoring system assesses each lesion independently according to # of significant lesions, their location and complexity.

5-year outcome of the SYNTAX trial
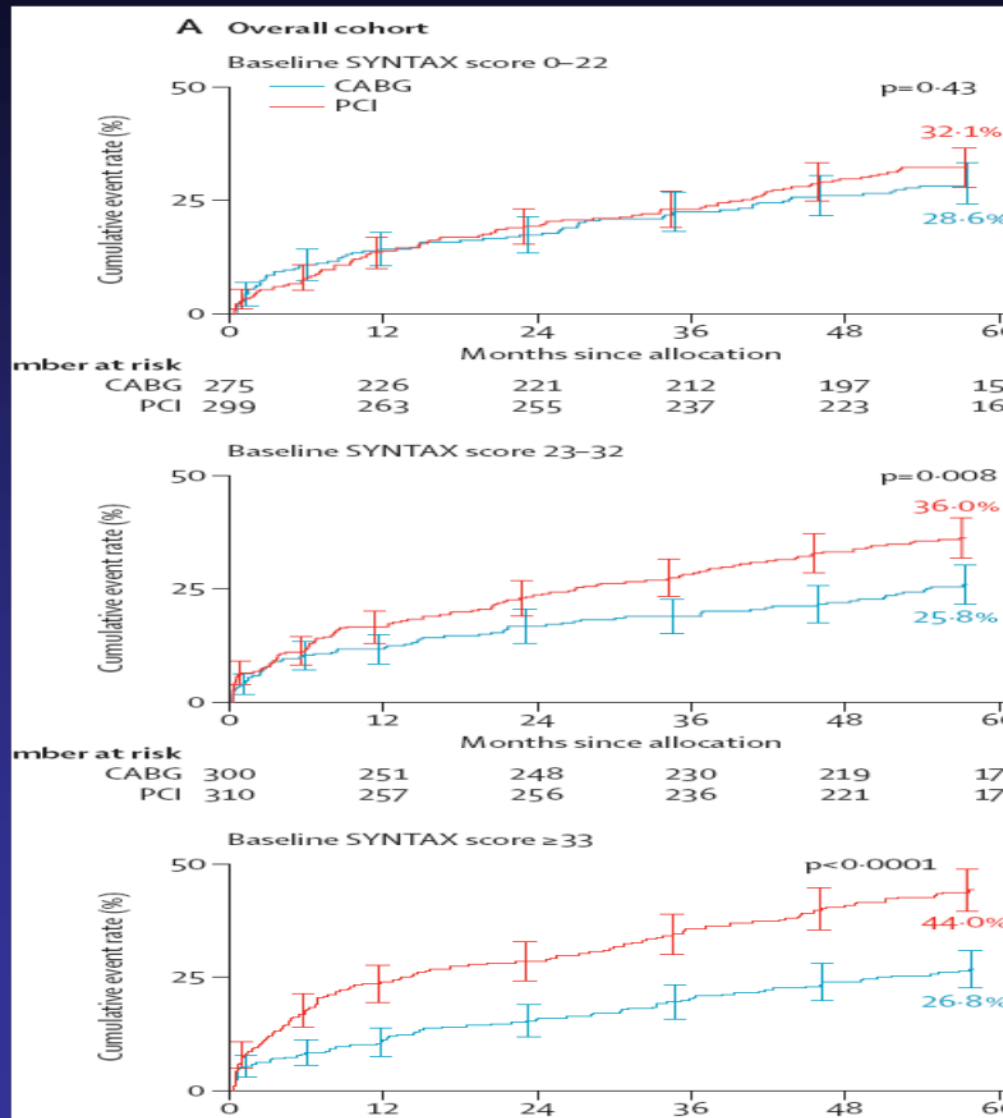
Aim

- To assess whether SYNTAX score predicts late mortality in patients undergoing CABG in a "real-world" clinical setting.

Methods

- 443 consecutive patients referred for CABG during a 2 year period (2005-2006) at Sheba Medical Center.

- Clinical data was abstracted from charts

- Angiographic data and SYNTAX scores were calculated by an experienced angiographer

- Patients were divided into 3 terciles as per the SYNTAX trial

- 5 year mortality data derived from National Mortality Database.
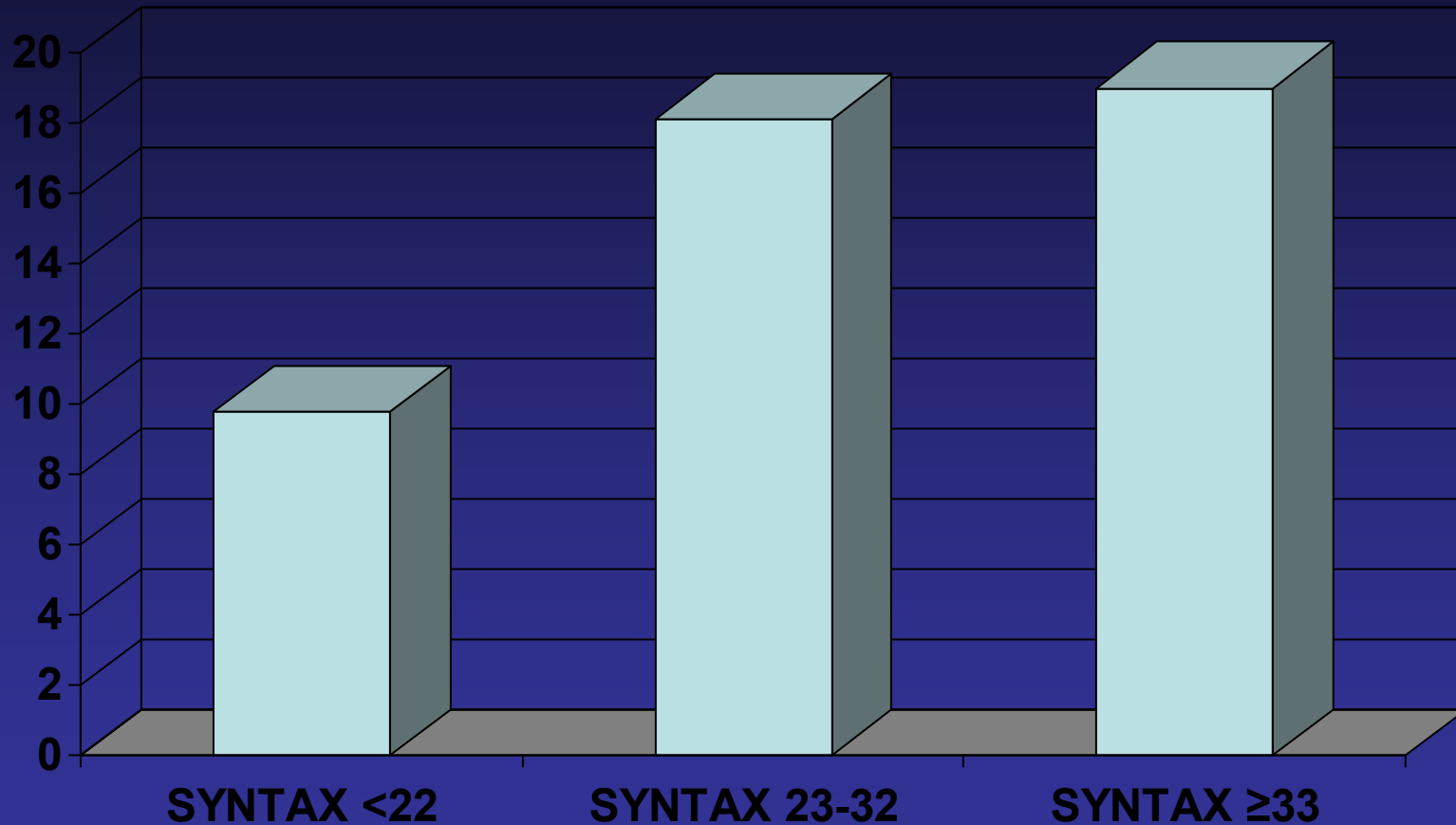
Results
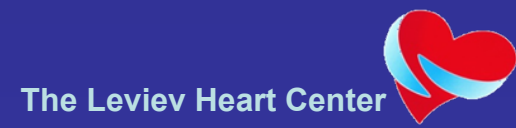
Baseline Characteristics

Variable	SYNTAX 0-22 N=218	SYNTAX 23-32 N=154	SYNTAX ≥ N=71	P value
Age	64±11	66±11	69±9	0.02
Male %	83	81	79	0.78
LVEF %	55±10	52±12	48±13	0.001
DM	40	42	43	0.52
Dyslipid	60	63	54	0.47
HTN	66	62	65	0.76
ACS	64.4	64.5	81	0.04
LM>50%	16	20	33	0.01
≥CTO	21	50	83	0.001
Logistic Euroscore	5.2±6	5.31±5	8.1±7	0.003

5-Year Unadjusted Mortality by Tercile

P=0.042

Multivariate-adjusted Model: Predictors of All-Cause Mortality

Variable	Hazard Ratio	95% Confidence Interval
Age (years)	1.08	1.05-1.12
Pre-op SPAP		
≤30 mmHg	1 (ref)	—
>30 mmHg	2.6	1.09-6.19
Post-op creatinine	1.74	1.23-2.45
COPD	2.8	1.27-6.15
SYNTAX (1 point-increment)	1	0.97-1.03
SYNTAX original categories		
0-22 points	1 (ref)	—
23-32 points	1.65	0.86-3.17
≥33 points	1.03	0.45-2.36

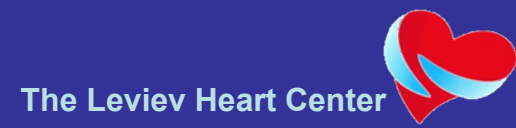**Additional adjustments were made with the following variables: gender; LVEF; PVD; ACS; previous PCI.**

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Discussion

Comparison with SYNTAX data

- Only 16% of our cohort had high SYNTAX scores vs 33% in the SYNTAX trial.
    - Unexpected in surgical referrals
    - Systematic underestimation of scores?
        » Genereux et al, Circ CV Int 2011
    - In Freedom trial also high risk SYNTAX scores less frequent
        » Faroukh et al, NEJM 2012

Other CABG registries

- Lemesle et al, CCI 2009 assessed outcomes in 320 consecutive patients referred for CABG.
  - SYNTAX score was a poor predictor of MACE
  - Only 1 year follow-up

CTOs

- High proportion of patients with CTOs, especially in High SYNTAC tercile
    - SYNTAX trial – 25% of all patients had a CTO but data not given for terciles

Conclusion

- Higher SYNTAX scores are associated with increasing mortality in our "real-world" patients referred for CABG.

- Mortality excess is attributable to higher baseline risk.

- SYNTAX score is not an independent predictor of mortality in patients undergoing CABG.