Discussant:
Transcatheter Intracardiac Shunt Device Provides Sustained Clinical Benefit at One Year in Heart Failure with Preserved or Mildly Reduced Ejection Fraction: The REDUCE LAP Heart Failure Trial

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Disclosure

- Investigator in the US Trial of the REDUCE LAP device sponsored by Corvia Medical

HFpEF

- HFpEF accounts for nearly 50% of heart failure cases, with increasing prevalence
- No pharmacological trial to date has demonstrated significant reductions in mortality in HFpEF
- Biological mechanisms are poorly understood and animal models not completely representative of human disease
- Symptoms occur primarily with exertion and quality of life is poor

6 month Primary Outcomes

- Proportion of patients with successful device implantation – 64/66 (97%)
- Percentage of patients with a reduction in PCWP at 6 months either at rest or during exercise
- Presence of persistent L➔R shunting
- Major adverse cardiac and cerebrovascular events including death, stroke, MI or systemic embolic event, or need for device removal

6 months Secondary Outcomes

- HF hospitalization
- Changes in echocardiographic parameters
- 6 MW test
- Natriuretic Peptides
- QOL

DEVICE SAFETY

Concerns exist, as the long-term effects of chronic elevation in R-sided output are unknown

- In the 75% of patients evaluated, device flow remains L→R in all
- Qp:Qs is stable between 6 and 12 months at 1.28
- Rate of death and stroke at one year is very low (4.6% mortality)
  - I-Preserve rate of death 5.2% (placebo)
  - TOPCAT Americas rate of death 7.7% (placebo)

DEVICE EFFICACY

- Based on the limited follow-up data available, there does not seem to be a marked change in echo, exercise or hemodynamic parameters between 6 and 12 months

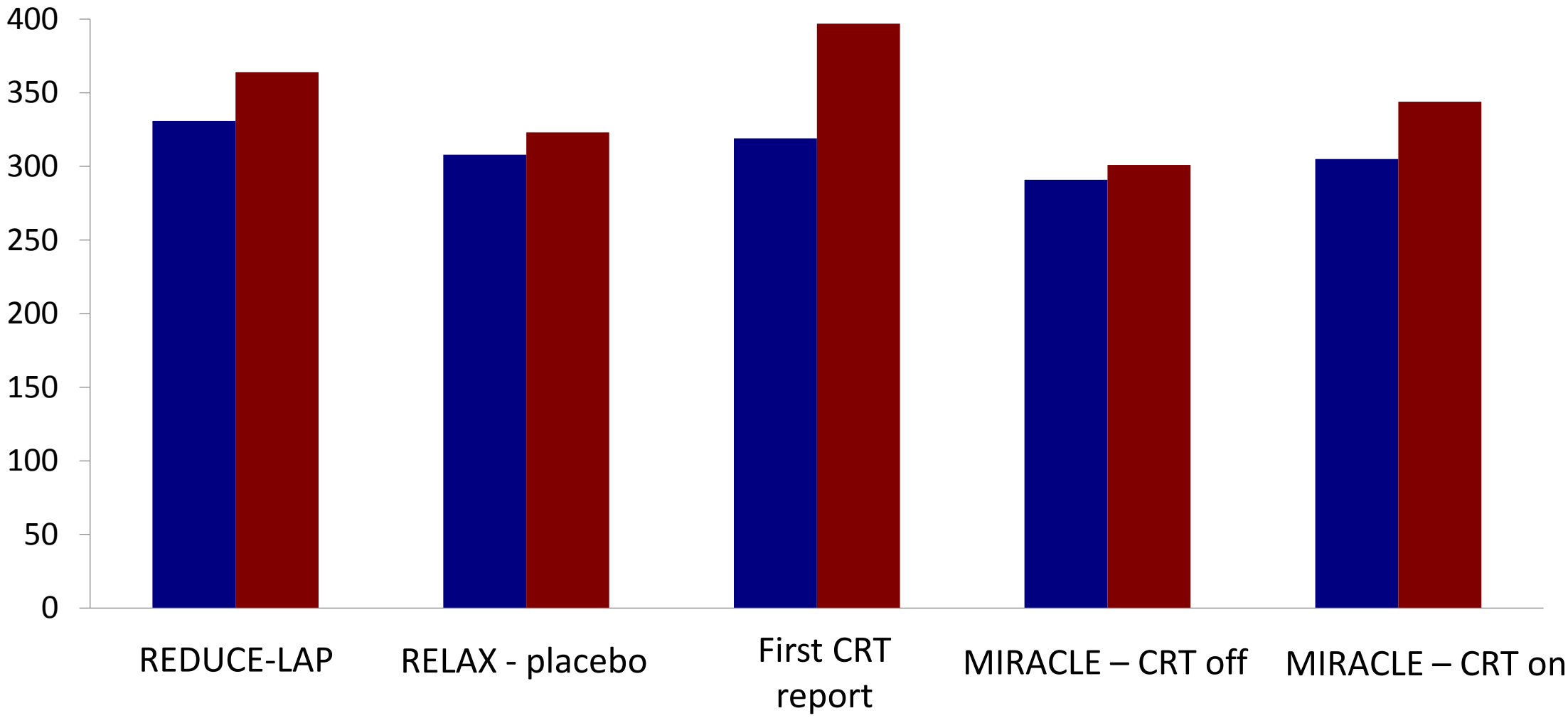
CONCERNS

- Non-randomized, open label, single arm device trial
- Potential for significant placebo effect
- While demonstration of safety is reassuring, effects of chronic right-sided volume loading may not yet be manifest at 1 year

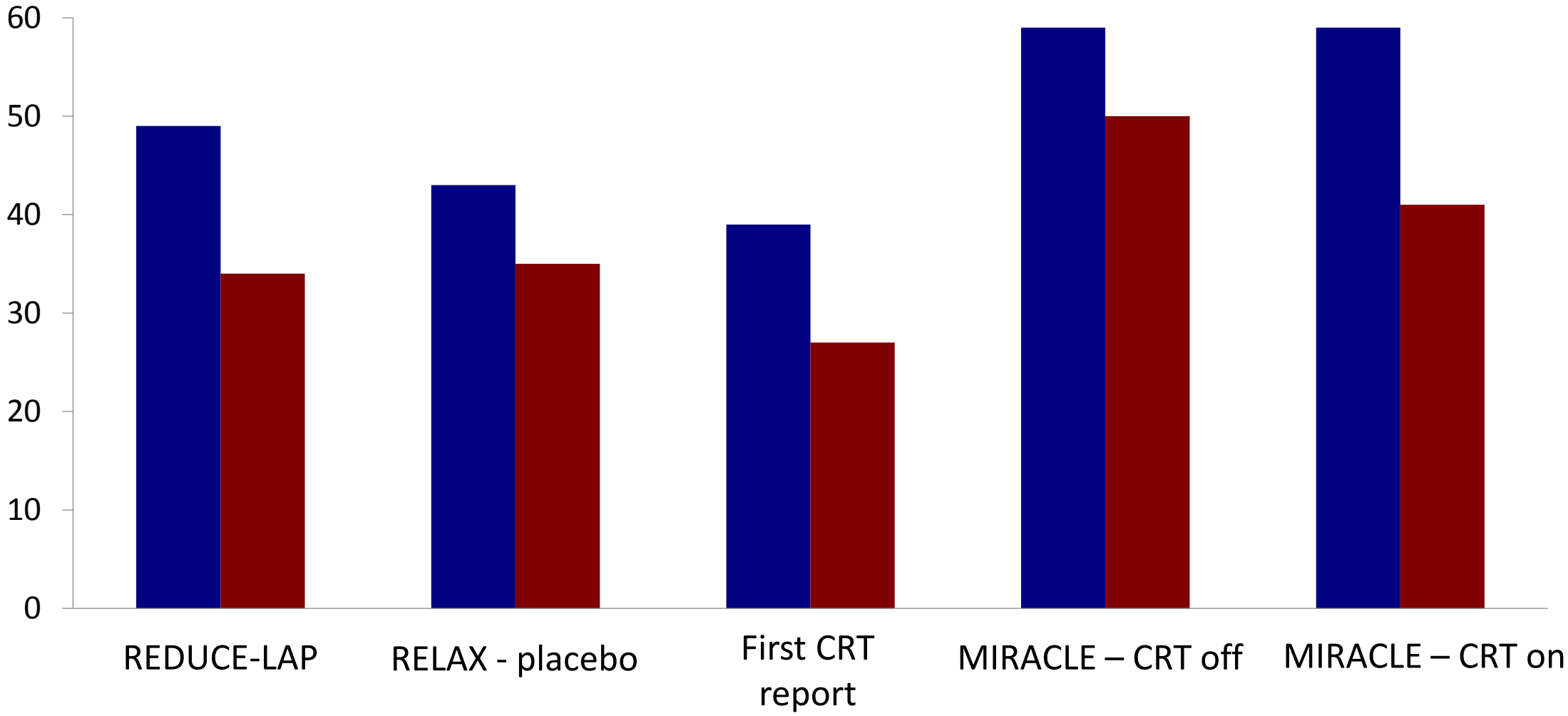
CONCERNS

- 12 month follow up incomplete, particularly hemodynamics. Selection bias reduces validity
- No report of hospitalization rates
- Difficult to interpret the patient perceived benefit of this therapy. In addition to knowing means it would be useful to know the percentages of patients who worsened, stayed the same and improved

Δ 6 Minute Walk Time



Δ MLWHF Score



ADDITIONAL CONSIDERATIONS

- Specific phenotype of HFpEF
  - Predominant abnormalities of exercise hemodynamics
  - Absence of pulmonary hypertension or RV failure
- Baseline assessment of exercise hemodynamics is important and complex
  - At many centers will require collaborative effort at implant between heart failure and interventional cardiologists

CONCLUSIONS

- 12 month REDUCE-LAP results are reassuring with regard to mid-term safety
- Efficacy remains indeterminate, but potentially promising
- Device therapy would have enormous impact in HFpEF
- Challenges those of us in the field to identify these patients earlier in the disease process