



Incidence and Impact of Dual Antiplatelet Therapy (DAPT) Cessation on Adverse Events following Percutaneous Coronary Intervention (PCI):

Results from the Real-World PARIS Registry

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on behalf of PARIS Investigators

Conflict of Interest:

▪Institutional Grant/Research Support:

- Bristol-Myers Squibb/ Sanofi
- Lilly/ DSI
- The Medicines Company
- BG Medicine

▪Consulting Fees/Honoraria

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|----------------------|-----------------|
| ▪ Sanofi | ▪ Janssen (J+J) |
| ▪ Abbott Vascular | ▪ BSC |
| ▪ Astra Zeneca | ▪ Covidien |
| ▪ Merck | ▪ CSL Behring |
| ▪ Regado Biosciences | |

Background and Rationale



- Antiplatelet agents are the cornerstone of therapy in patients with ACS and in those undergoing PCI
- Current ACC/AHA guidelines¹ recommend 30 days DAPT following placement of a BMS and 1 year following placement of a DES.
- In patients with ACS 12 months of DAPT is recommended regardless of stent type

DAPT Cessation and PCI: Existing Evidence



- Premature cessation of DAPT, within the first 6 months after PCI, has been associated with an increased risk of stent thrombosis.¹
- Sustained DAPT (one year or longer) has been associated with lower risk for adverse events in observational studies.^{2,3}
- Most studies involved select cohorts and limited by pre-specified or standard criteria to define DAPT status

¹Schulz et al., EHJ 2009; ²Ho et al., AHJ 2007; ³Park et al., AJC 2006

DAPT Cessation and PCI: Unresolved Questions



- Does risk after DAPT cessation depend on the underlying context or clinical circumstances in which antiplatelet therapy is stopped (surgery vs. bleeding vs. physician-guidance)?
- How long does risk persist after antiplatelet therapy is withdrawn?
- What is the overall contribution of DAPT cessation on adverse events in the contemporary PCI era?

Study Design



- Multicenter, multinational, observational study
- 5,031 subjects were followed for approximately 24 months post stent implantation
- Included bare metal and drug-eluting stents
- All events, including all occurrences of DAPT cessation, were adjudicated by a **blinded external clinical events committee**

Modes of DAPT Cessation



- **Discontinuation**

- patients had discontinued DAPT as per recommendation of their physician who felt the patient no longer needed therapy

- **Interruption**

- patients had interrupted DAPT use on a voluntary basis and as guided by a physician due to (e.g. surgery)
- DAPT was then reinstituted within 14 days

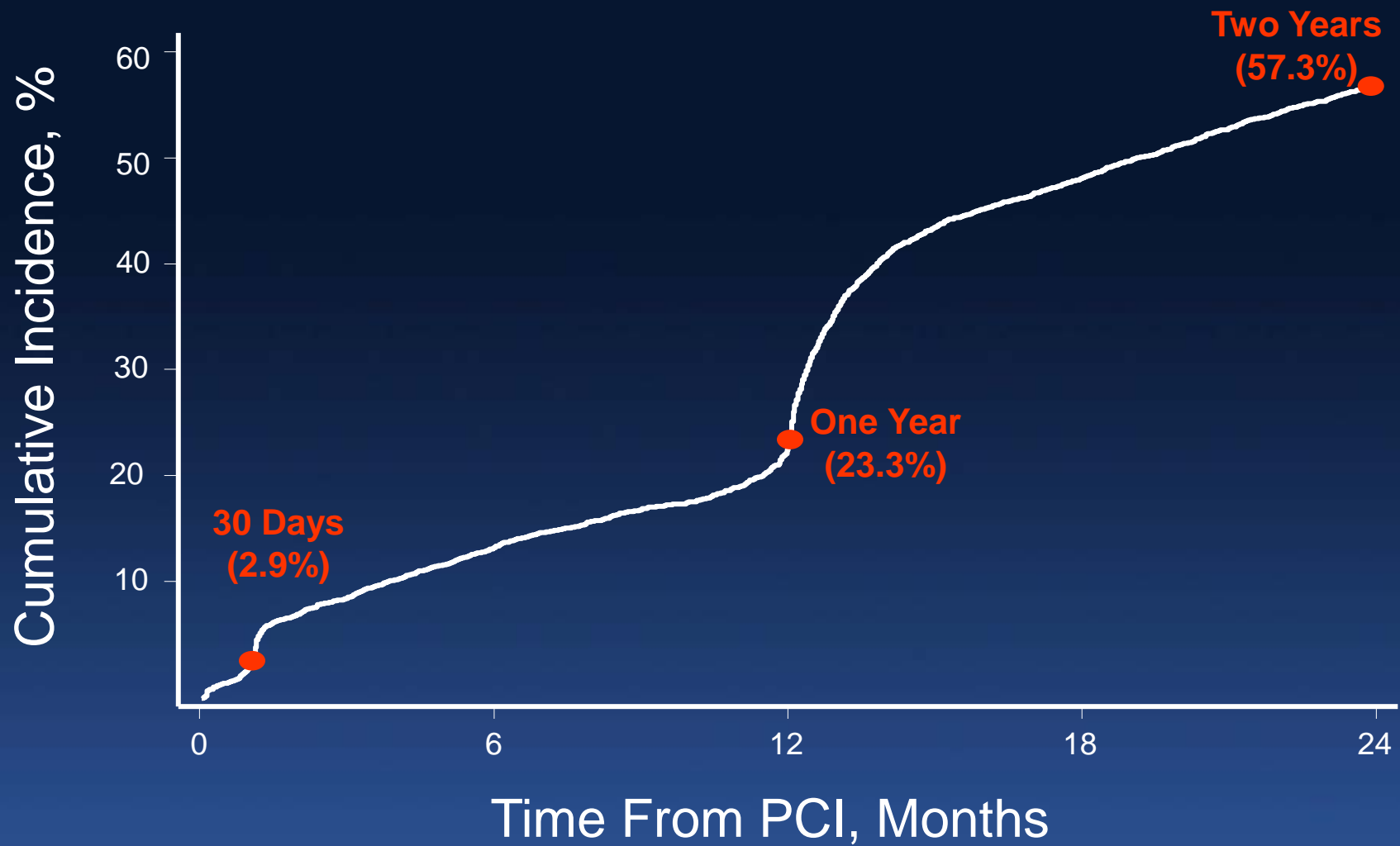
- **Disruption**

- patients had disrupted DAPT use due to bleeding or non-compliance.

5,031 Patients with successful PCI with stenting enrolled at 15 sites in the US and Europe

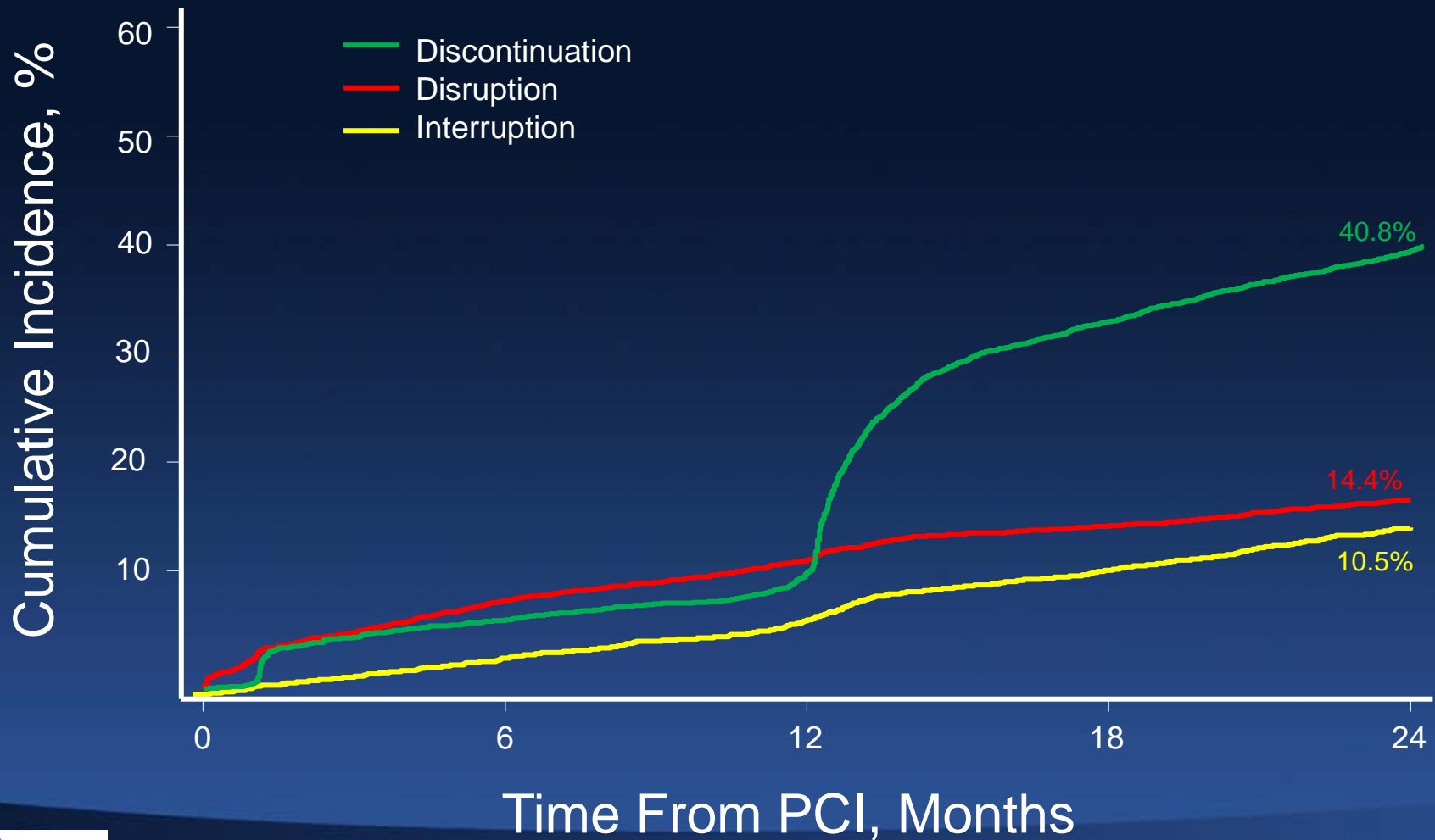


2-Year Kaplan-Meier Plot of Any DAPT Cessation



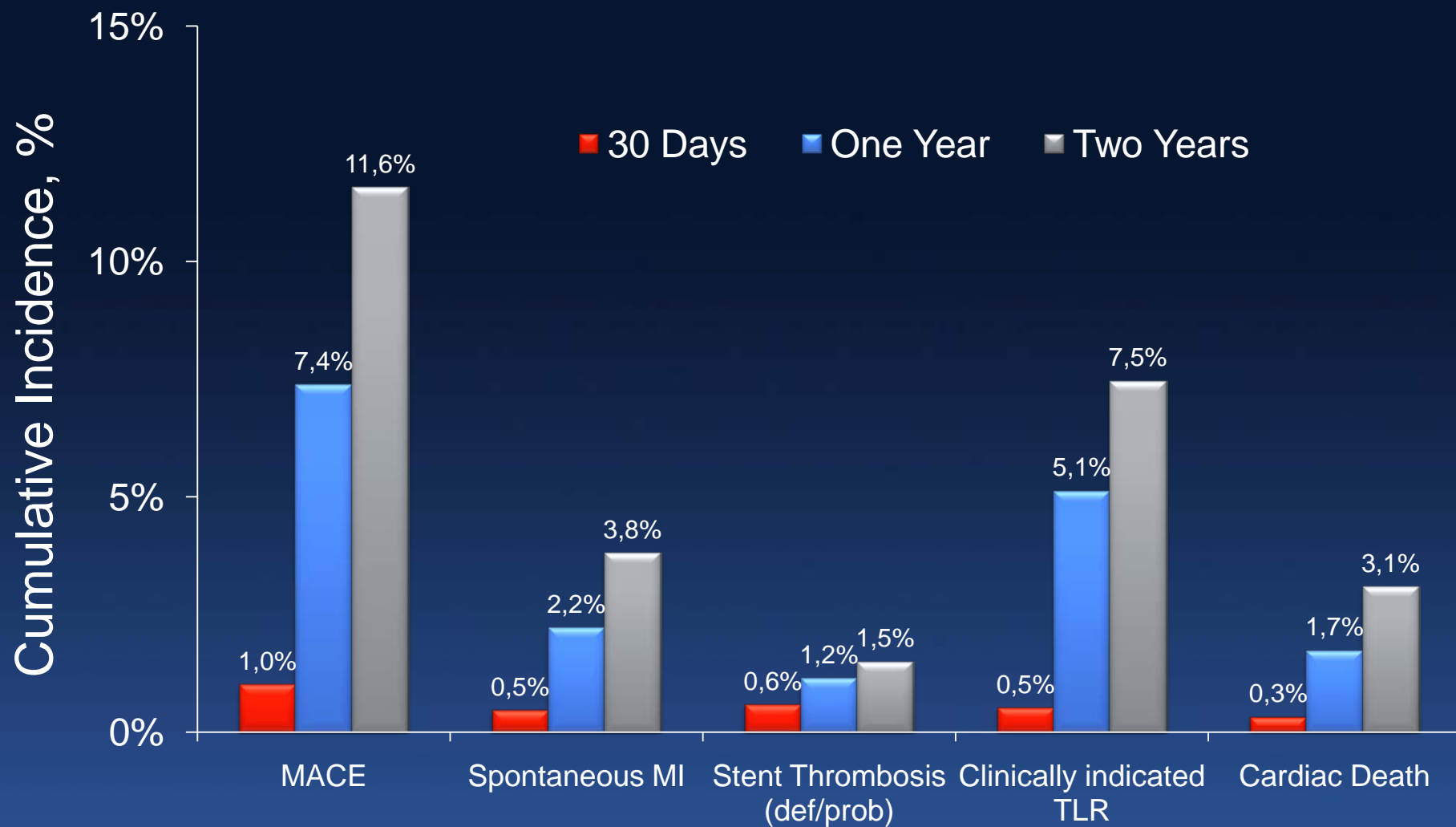
Incidence rates calculated over entire study population. Patients censored at last known contact, death or study end.

2-Year Kaplan-Meier Plots of Any Discontinuation, Interruption and Disruption



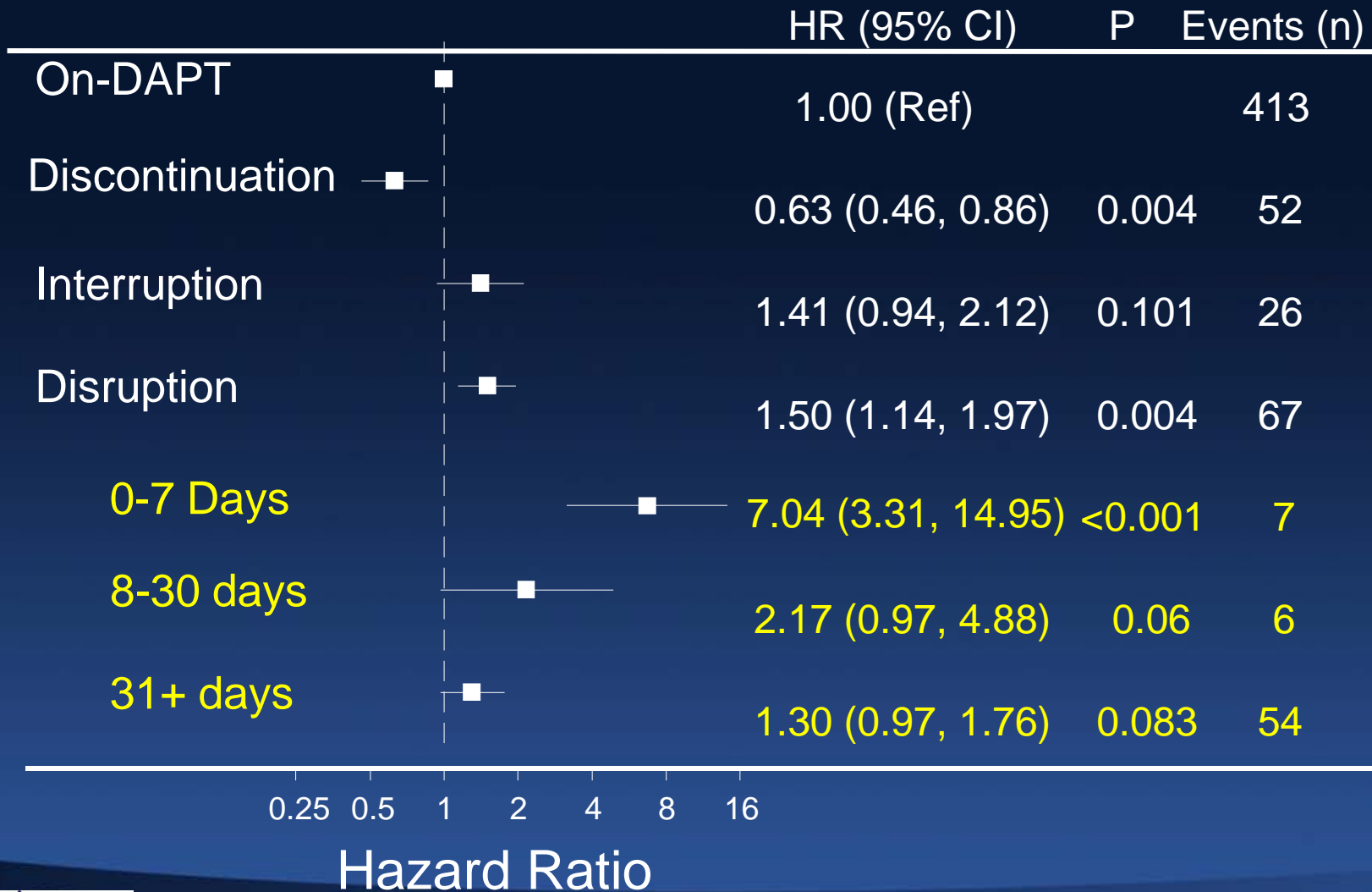
Incidence rates calculated over entire study population. Patients censored at last known contact, death or study end.

Overall Event Rates Over 2 Years

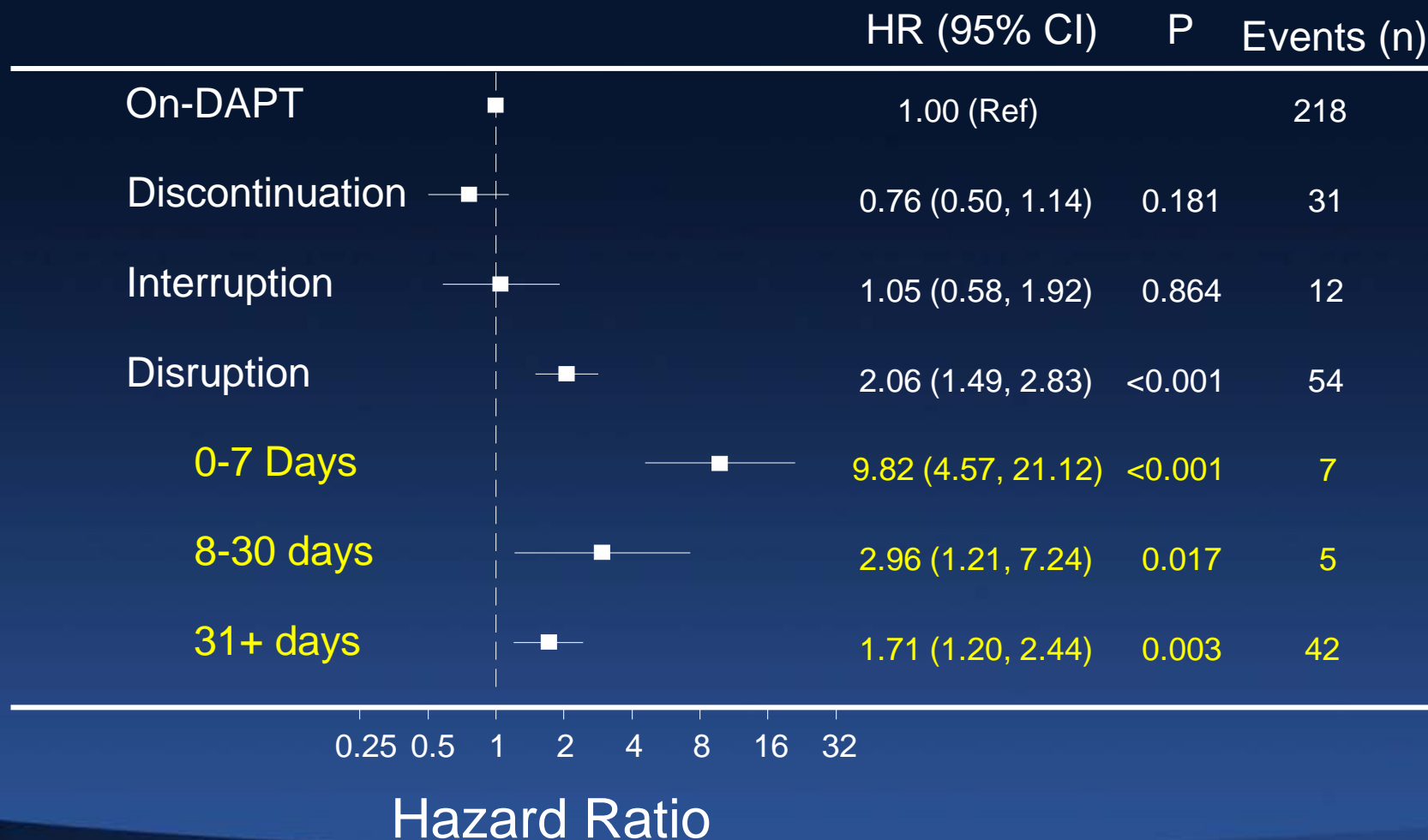


Impact of DAPT Cessation on Adverse Events

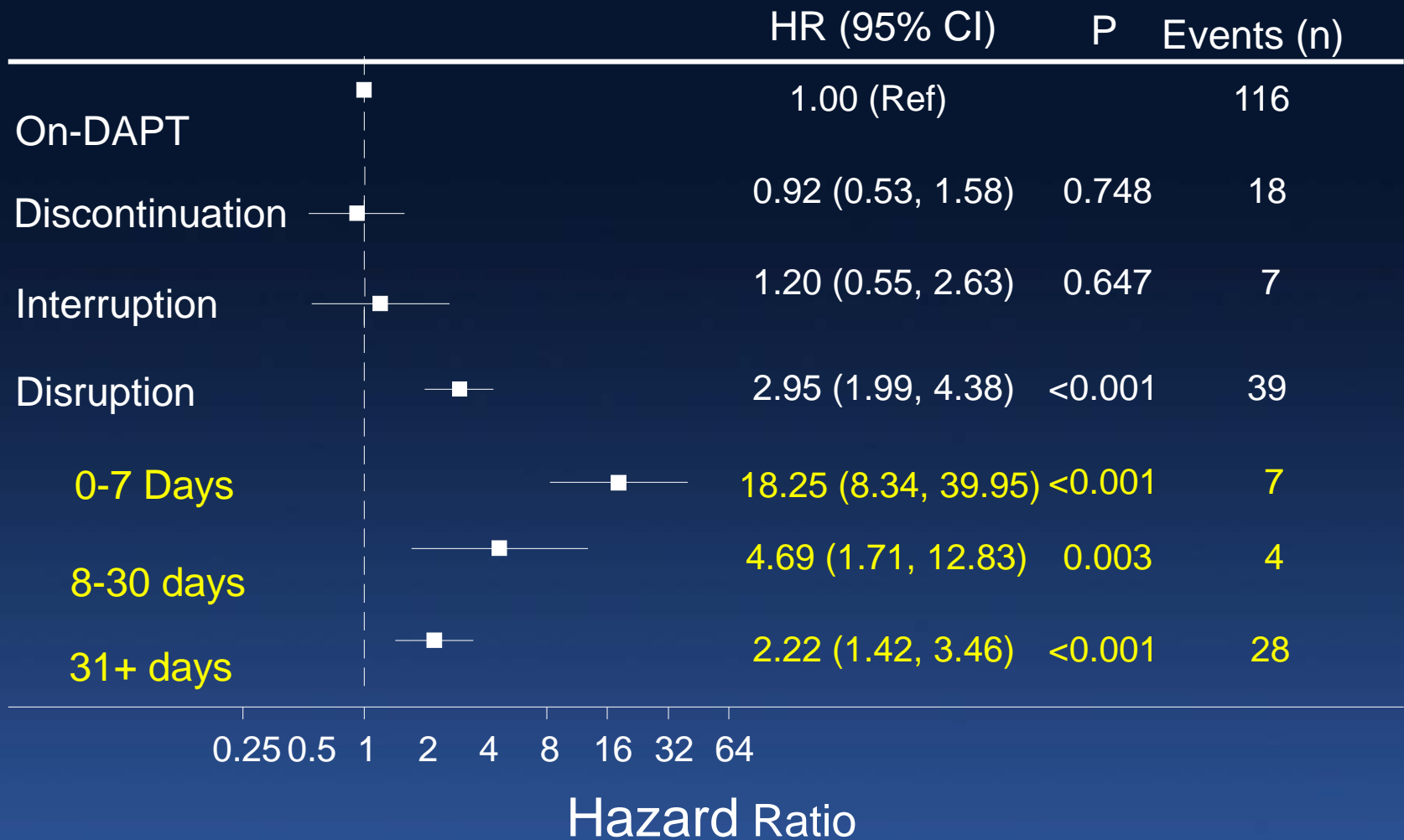
DAPT Cessation and MACE*



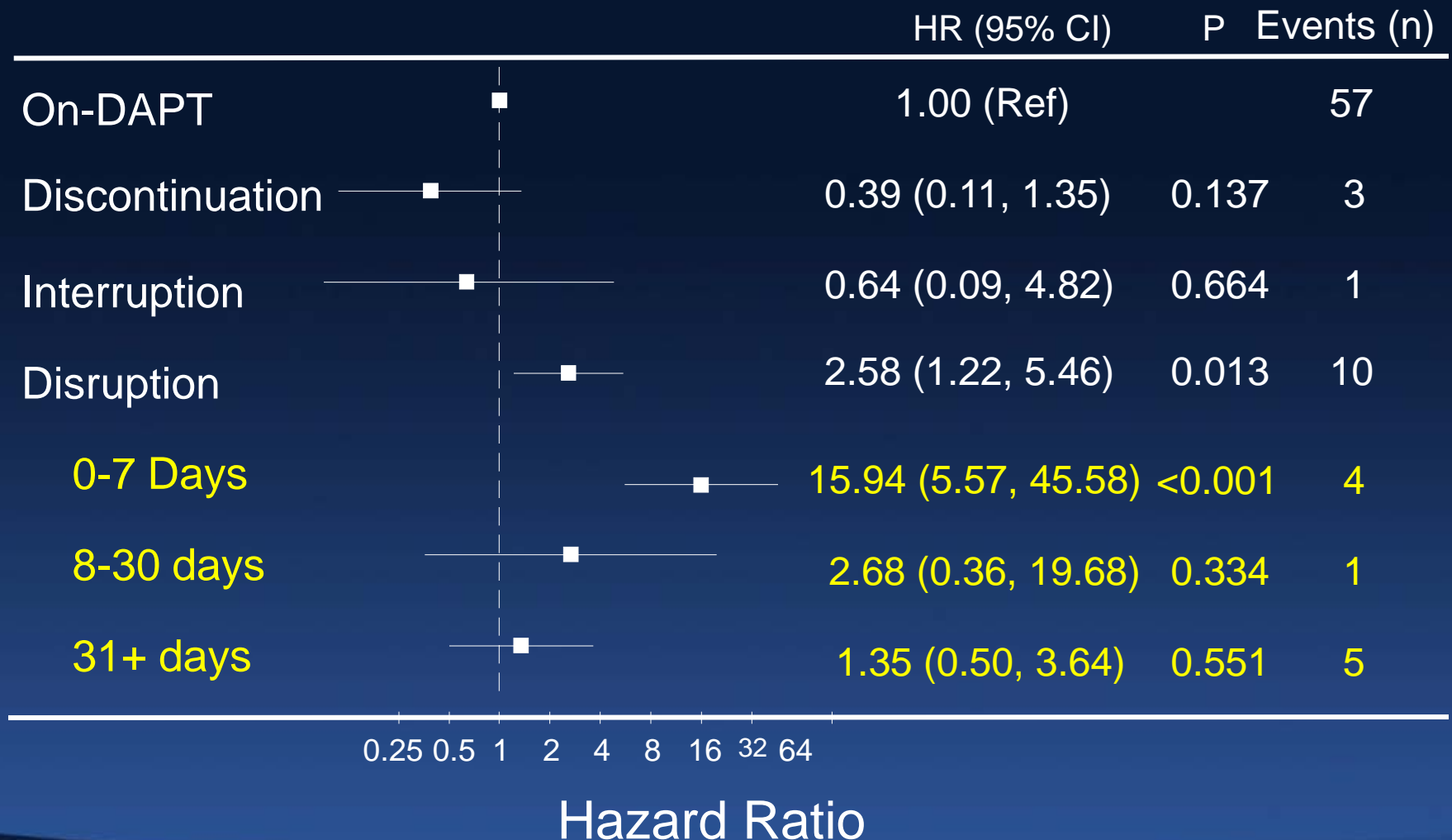
DAPT Cessation and Cardiac Death, Def/Prob ST, Spontaneous MI



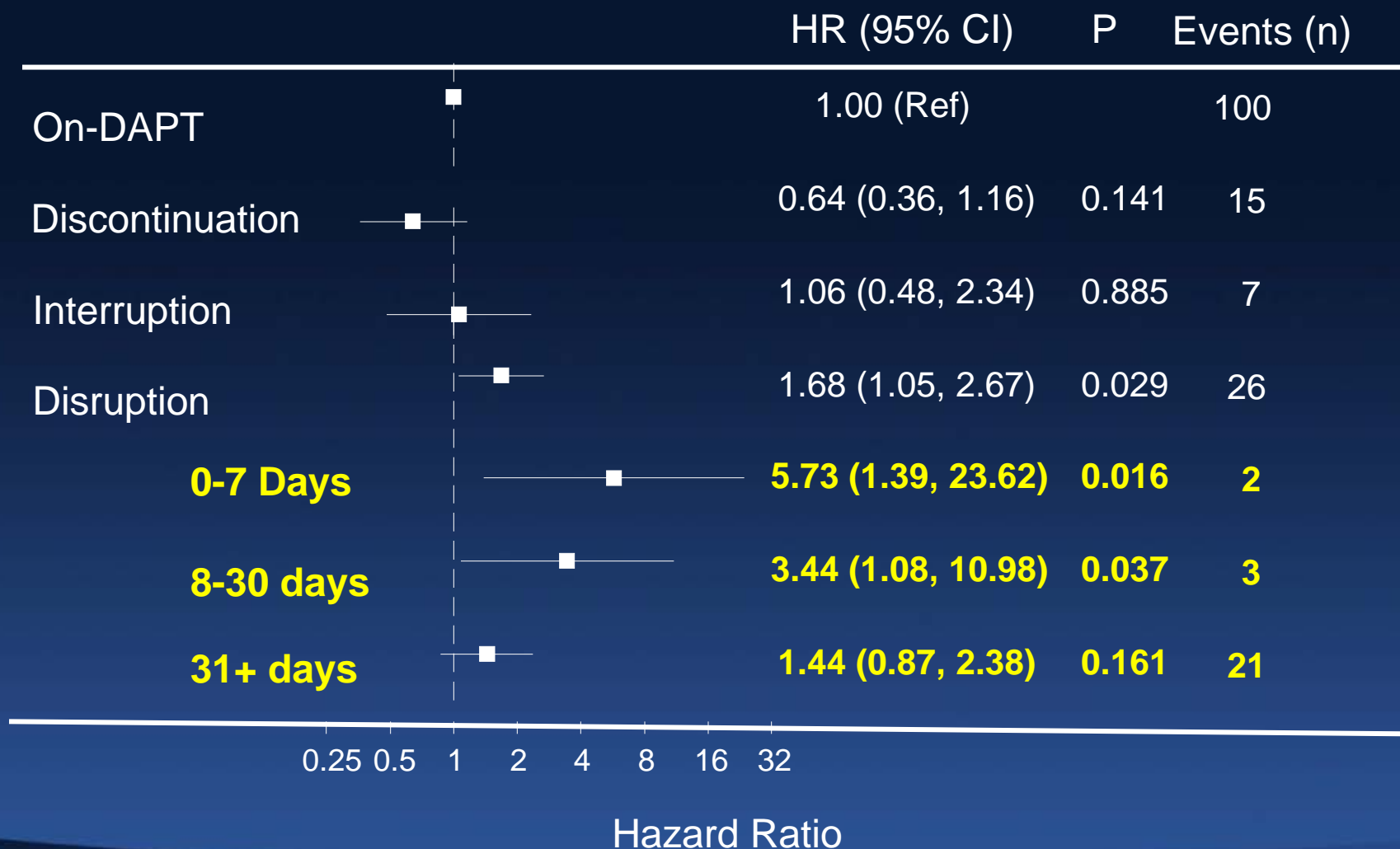
DAPT Cessation and Spontaneous MI



DAPT Cessation and Def/Prob Stent Thrombosis

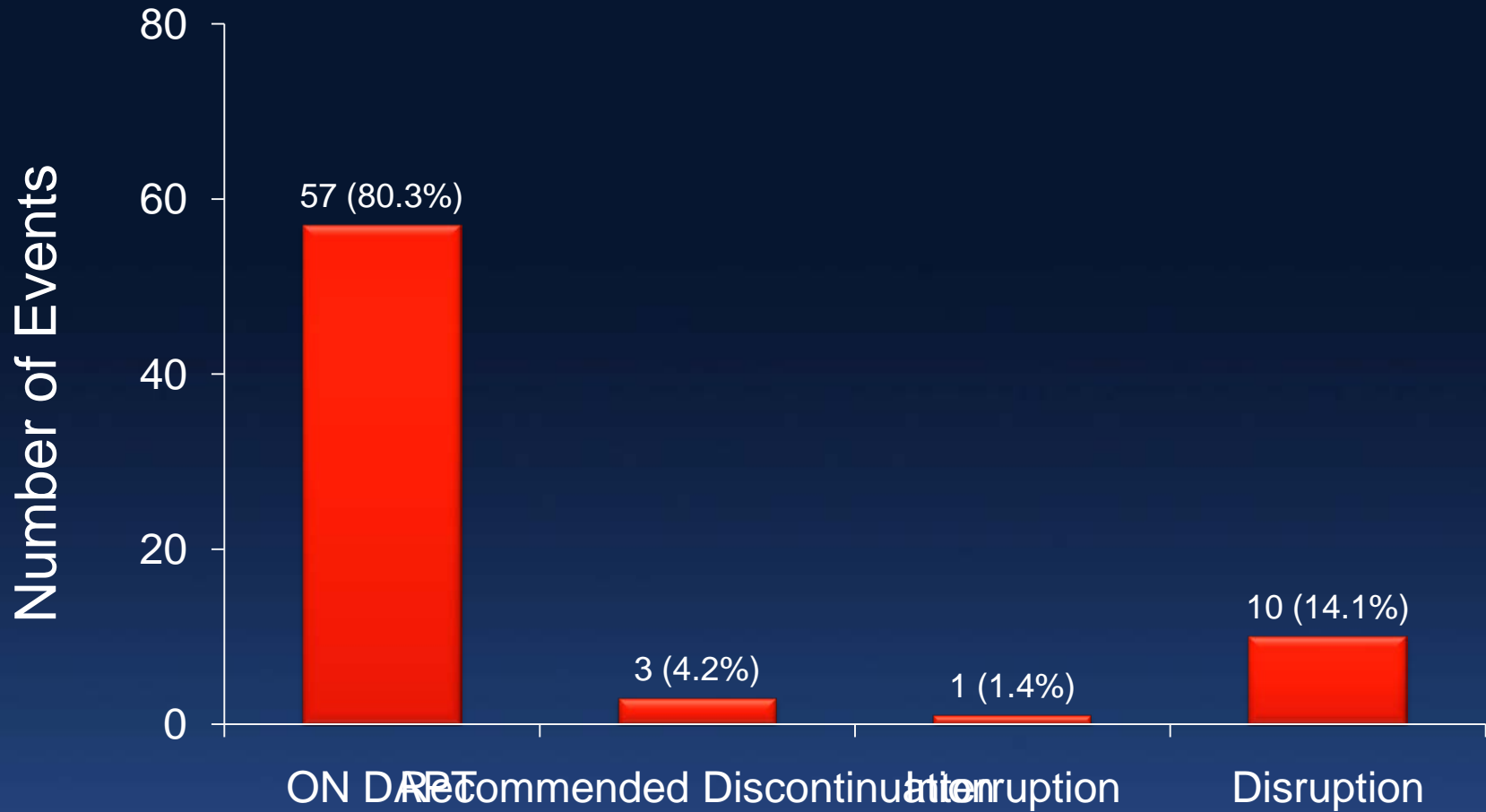


DAPT Cessation and Cardiac Death



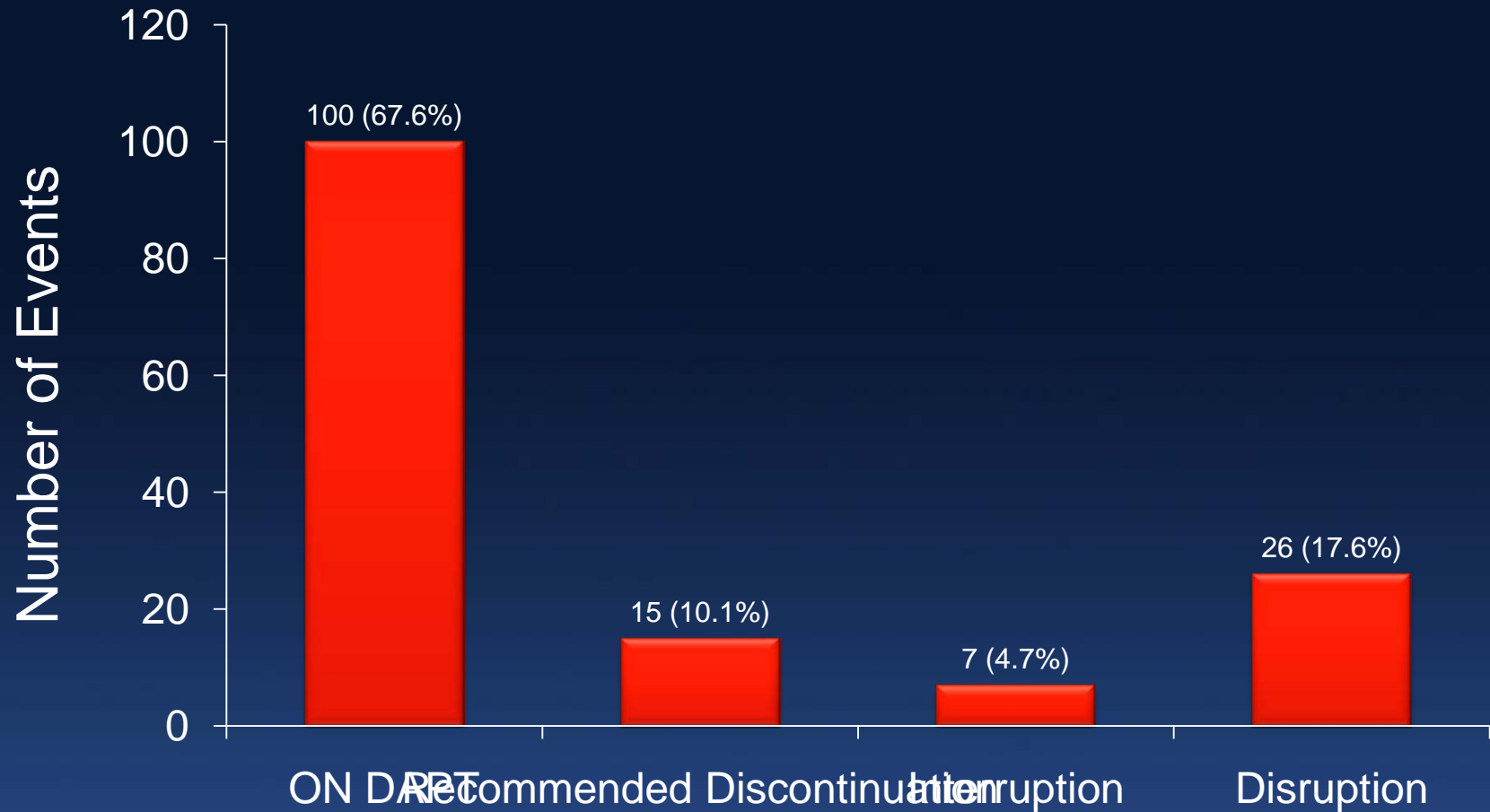
Overall Contribution of DAPT Cessation on Adverse Events

Number (%) of Def/Prob ST events by DAPT Status*



*Out of 71 ST events at 2 years, 57 (80.3%) occurred while patients were ON DAPT. ST defined by the Academic Research Consortium (ARC) Criteria.

Number (%) of Cardiac Death events by DAPT Status*



*Out of 148 Cardiac Death events at 2 years, 100 (67.6%) occurred while patients were ON DAPT. Cardiac Death defined using ARC criteria.

Conclusions

- The impact of DAPT cessation on cardiac risk after PCI is not uniform but varies substantially by underlying mode, a novel finding with important implications for future study design and clinical practice.
- Relative risk for MACE due to disruption is substantial, albeit short-lived, compared to those on DAPT.
- The overall impact of DAPT cessation on adverse events is modest and may have been mitigated with the introduction of safer stent platforms.
- Findings highlight the need for uniform approaches in classifying DAPT cessation, analogous to those currently used for bleeding and MI.

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Articles

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Cessation of dual antiplatelet treatment and cardiac events after percutaneous coronary intervention (PARIS): 2 year results from a prospective observational study



Roxana Mehran, Usman Baber, Philippe Gabriel Steg, Cono Ariti, Giora Weisz, Bernhard Witzenbichler, Timothy D Henry, Annapoorna S Kini, Thomas Stuckey, David J Cohen, Peter B Berger, Ioannis Iakovou, George Dangas, Ron Waksman, David Antoniucci, Samantha Sartori, Mitchell W Krucoff, James B Hermiller, Fayaz Shawl, C Michael Gibson, Alaide Chieffo, Maria Alu, David J Moliterno, Antonio Colombo, Stuart Pocock