ISAR-LEFT MAIN: A Randomized Clinical Trial on Drug-Eluting Stents for Unprotected Left Main Lesions

Adnan Kastrati, MD

Deutsches Herzzentrum,
Technische Universität Munich, Germany

Background

Although CABG surgery and BMS for unprotected LM disease demonstrate similar mortality rates, the higher incidence of restenosis and greater need for revascularization attenuate the clinical efficacy of LM stenting.

DES may be particularly helpful to reduce restenosis in the high risk subset of pts with LM disease. Importantly, for pts who are unable to undergo CABG surgery, DES remain the only revascularization alternative.

Background *(con't)*

Two DES (Cypher and Taxus) are highly but probably not equally effective in reducing restenosis.

Patients with LM lesions deserve the best DES.
In particular, we need to know which is the best DES to use in head-to-head comparisons of DES versus CABG in patients with LM lesions.

Objective of ISAR-LEFT MAIN

…to assess the relative efficacy of the sirolimus-eluting stent (Cypher) and paclitaxel-eluting stent (Taxus) in patients with unprotected LM lesions.

Inclusion Criteria

Patients with ischemic symptoms or evidence of myocardial ischemia in the presence of ≥50 % stenosis located in unprotected LM lesions who are ***unable*** to undergo CABG (poor surgical candidates or unwillingness).

Informed, written consent

Exclusion Criteria

Age < 18 years

Cardiogenic shock

ST-Elevation Acute Myocardial Infarction

In-stent Restenosis

Prior coronary artery bypass surgery

Left main size>4.5 mm by visual estimation

Malignancies with life expectancy <1 year

Planned staged PCI within 30 days from index PCI

Planned elective surgical procedure necessitating discontinuation of clopidogrel during the first 6 months

Pregnancy

Primary End Point

Incidence of major adverse cardiac events defined as the composite of

death,

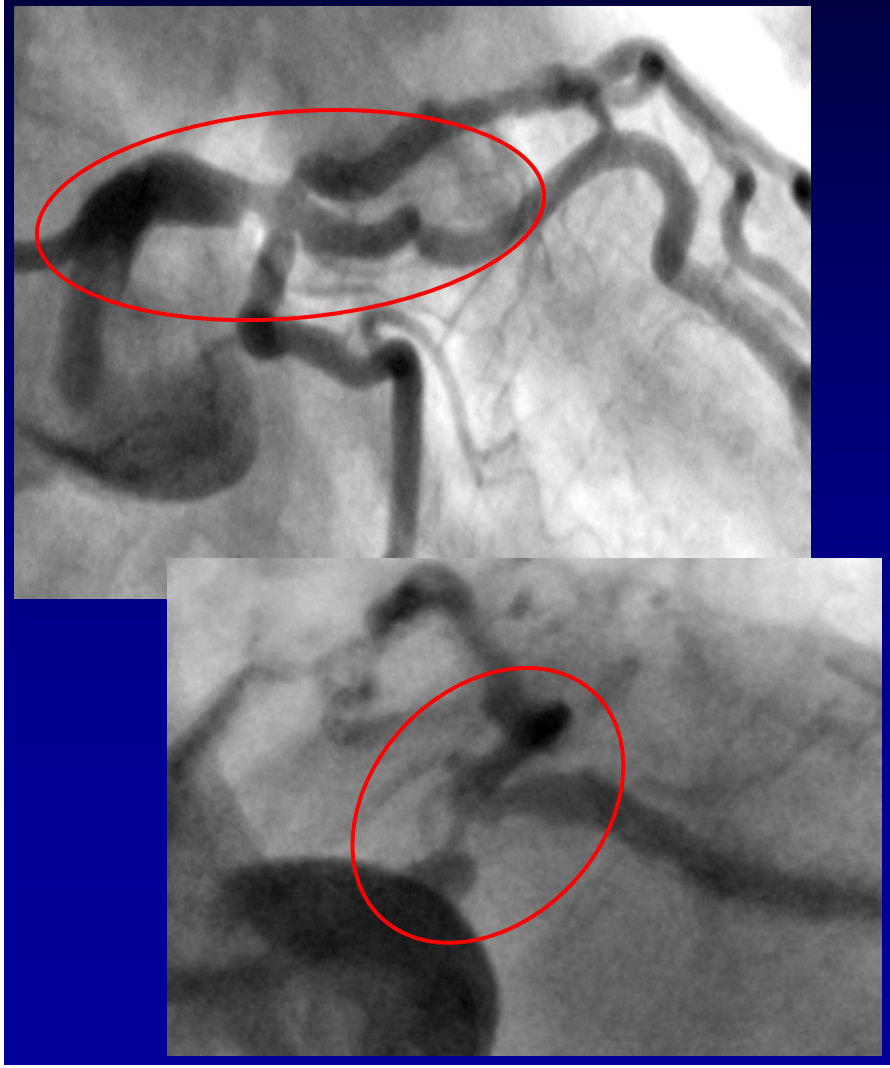
myocardial infarction and

target lesion revascularization

at 1-year follow-up.

Secondary End Point

left main area analysis



Angiographic restenosis at 6-9-month FU angiogram, *defined as diameter stenosis ≥50% measured by QCA in the area from left main ostium to 5-mm proximal segments of LAD, LCx as well as of R. intermedius if the latter has a reference diameter >2 mm*.

Sample size calculation

Hypothesis:
Taxus is not inferior to Cypher in terms of major adverse cardiac events

Assumptions:
Incidence of MACE 25% in the Cypher group
Margin of non-inferiority 9%
Power of 80%
α-level of 0.05

Needed number of patients for each group: 287
Planned number of patients to enroll: 600 in total

ISAR-LEFT MAIN

Intracoronary **S**tenting and **A**ngiographic **R**esults:
Drug-Eluting Stents for Unprotected Coronary **Left Main** Lesions

607 patients with *unprotected* left main lesions

Clopidogrel 600 mg at least 2h before procedure
Aspirin 500mg i.v.

Sirolimus-eluting stent
(Cypher)
n=305

Paclitaxel-eluting stent
(Taxus)
n=302

Clopidogrel 2x75 mg/day until discharge
75 mg indefinitely

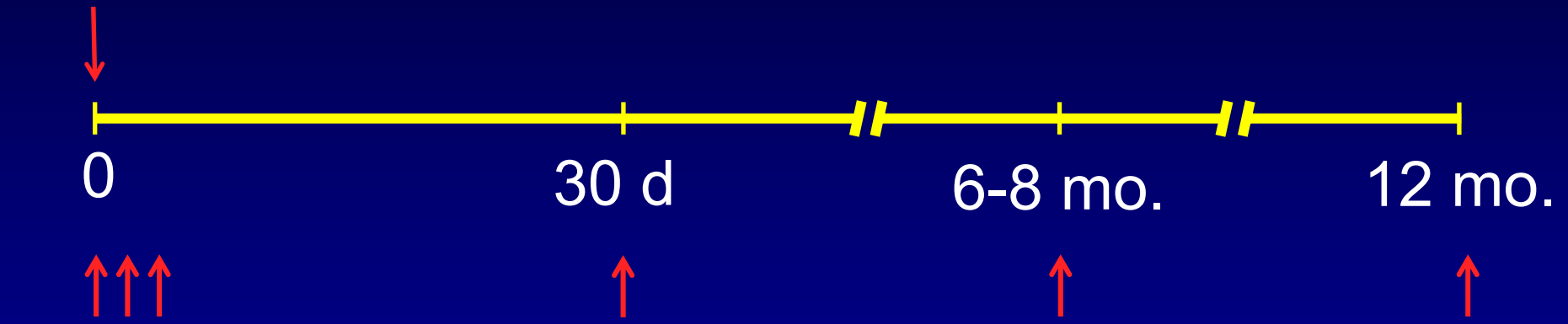
Aspirin 200 mg/day

Follow-Up Protocol

600 mg Clopidogrel

PCI

ASS 500 mg + heparin with/out GPI (10%) or bivalirudin (15%)



serial CK + CKMB measurements

clinical follow-up (100%)

repeat angiography

clinical follow-up

Baseline clinical characteristics

	Cypher n=305	Taxus n=302
Age, years	69.4±9.3	68.8±10.3
Women, %	20	25
Art. Hypertension, %	69	70
Diabetes, %	28	30
Current smoker, %	10	10
Hypercholesterolemia, %	75	78

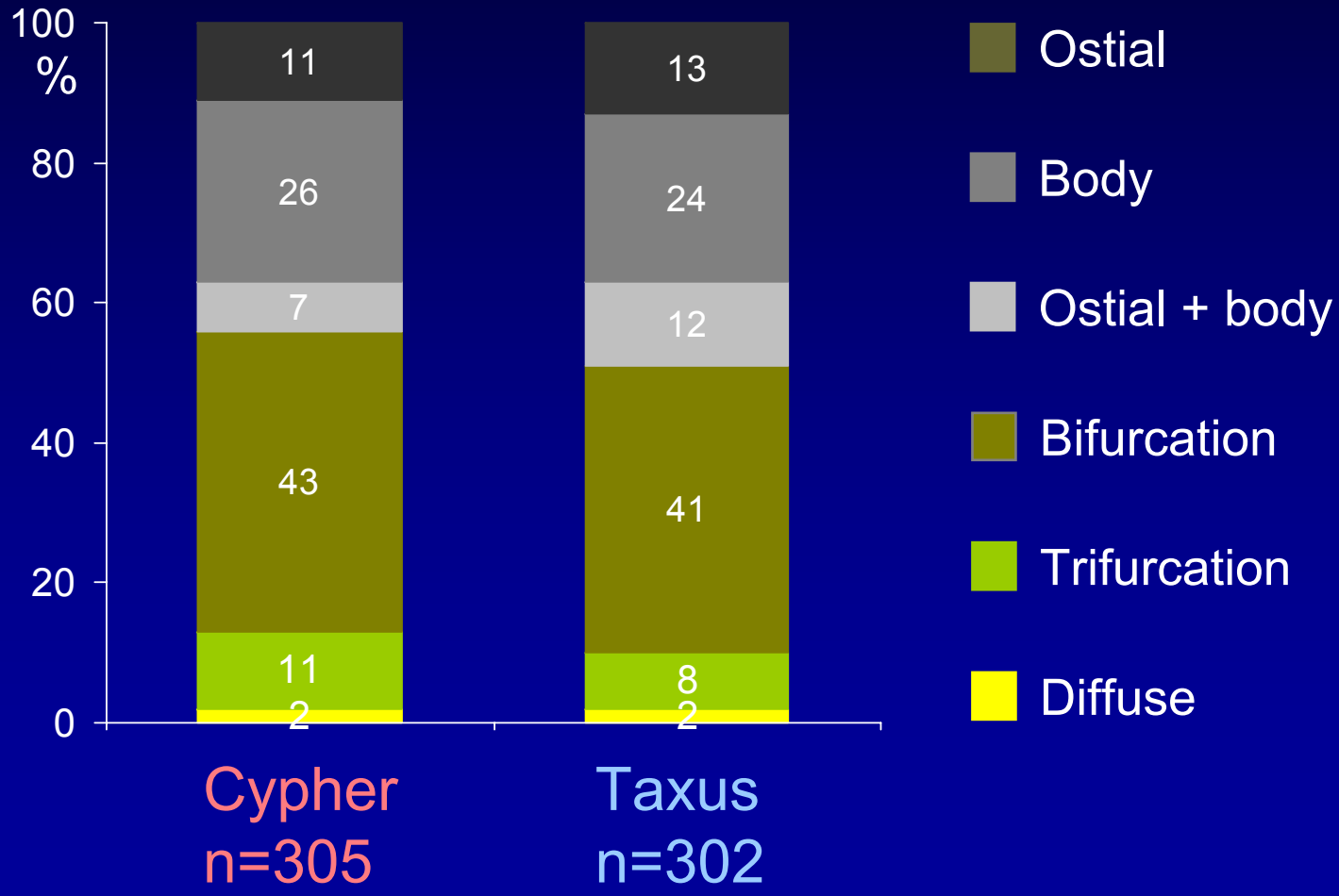
Baseline clinical characteristics (con't)

	Cypher n=305	Taxus n=302
Unstable Angina, %	23	27
Non-ST-elevation AMI, %	17	16
History of MI, %	28	25
Prior PCI, %	50	46
Parsonnet Score	12.0±9.1	12.8±9.8
EuroSCORE	4.4±3.2	4.7±3.5
IABP, %	1	1

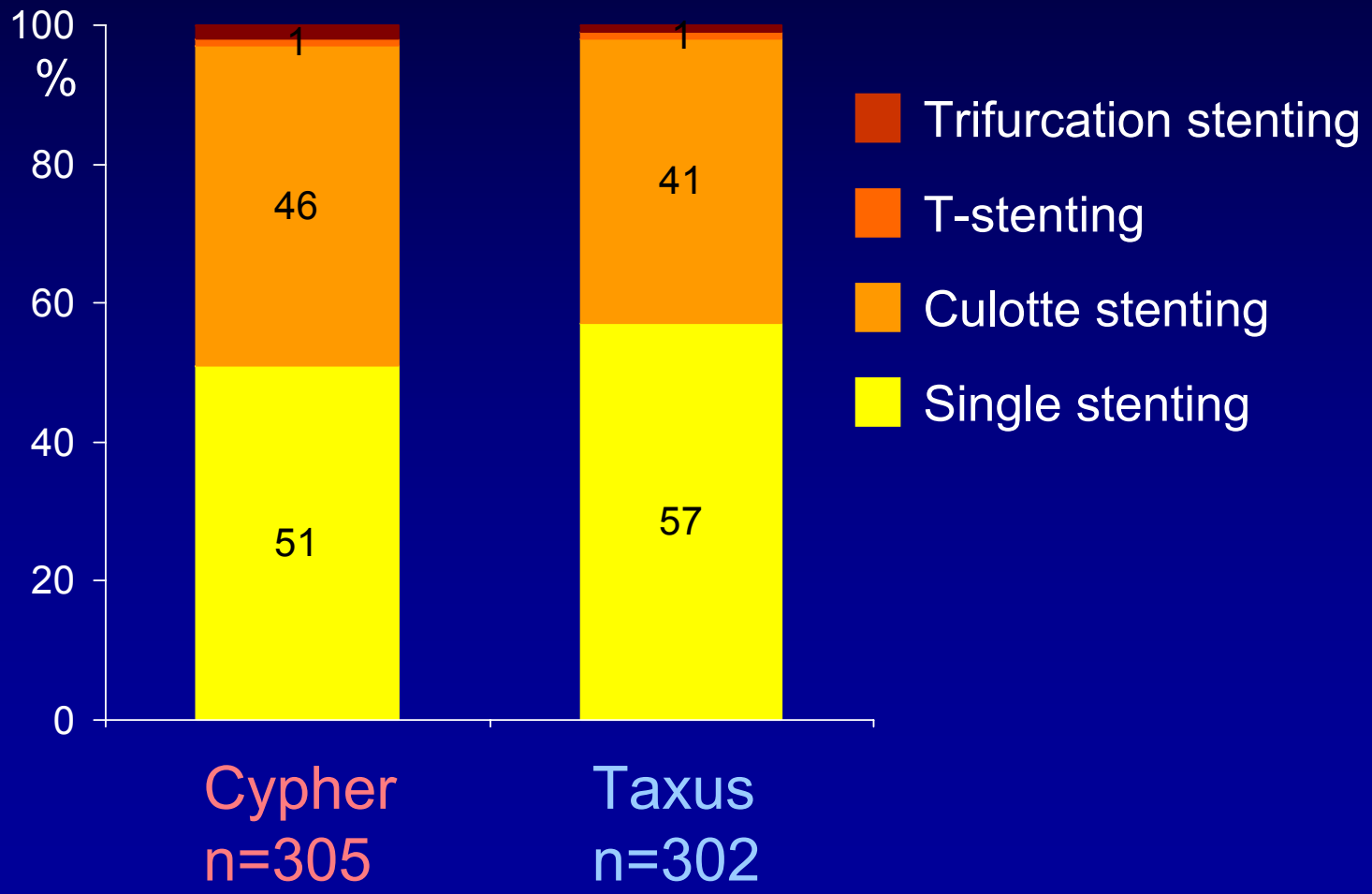
Angiographic characteristics

	Cypher n=305	Taxus n=302
LV ejection fraction, %	54.4±12.4	53.4±12.8
Coronary artery dominance		
right	80	78
left	11	13
balanced	9	9
RCA ≥50% stenosis, %	74	71
Dominant RCA occlusion, %	12	10
R. intermedius >2.0 mm, %	24	25

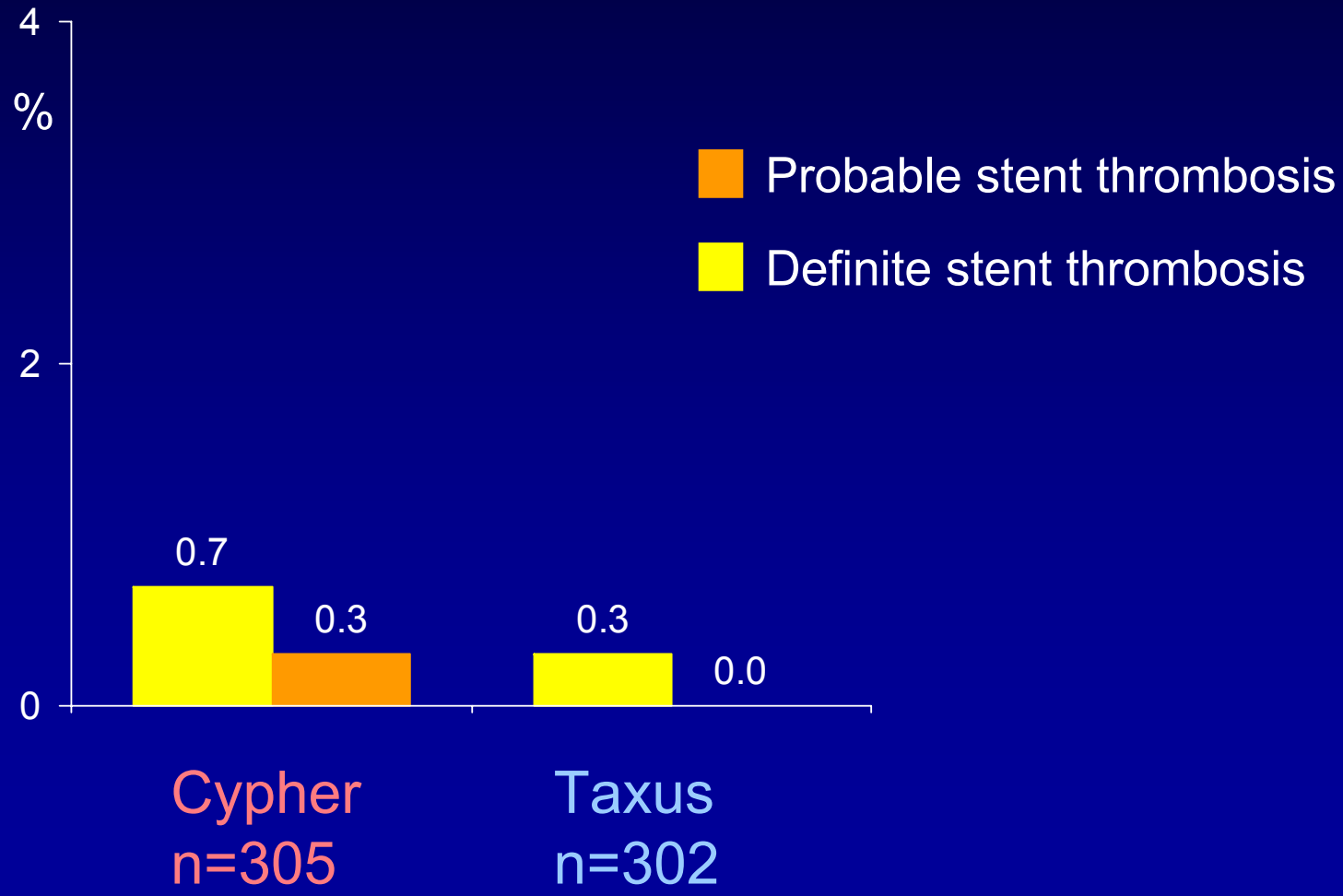
Left main lesion location



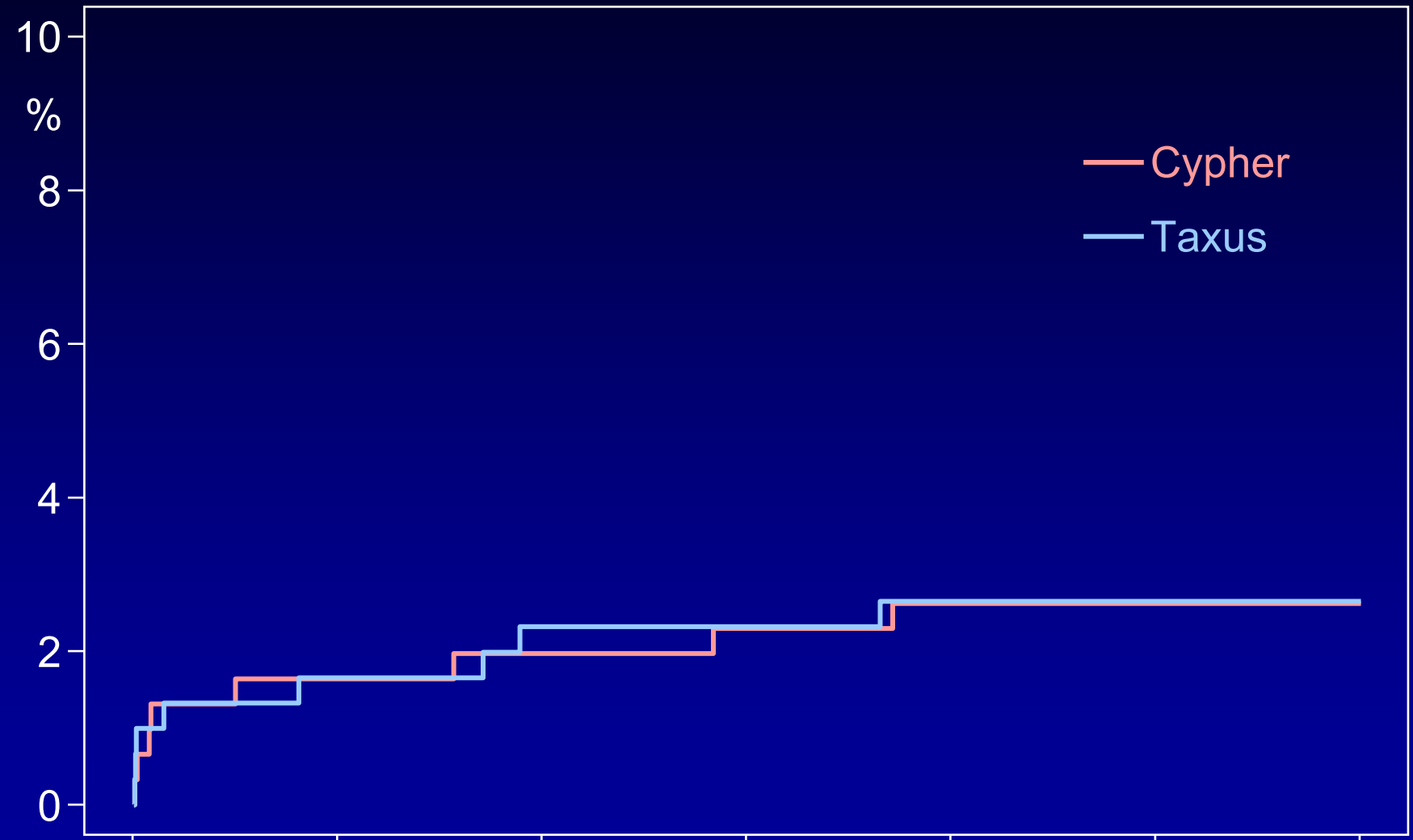
Stenting technique



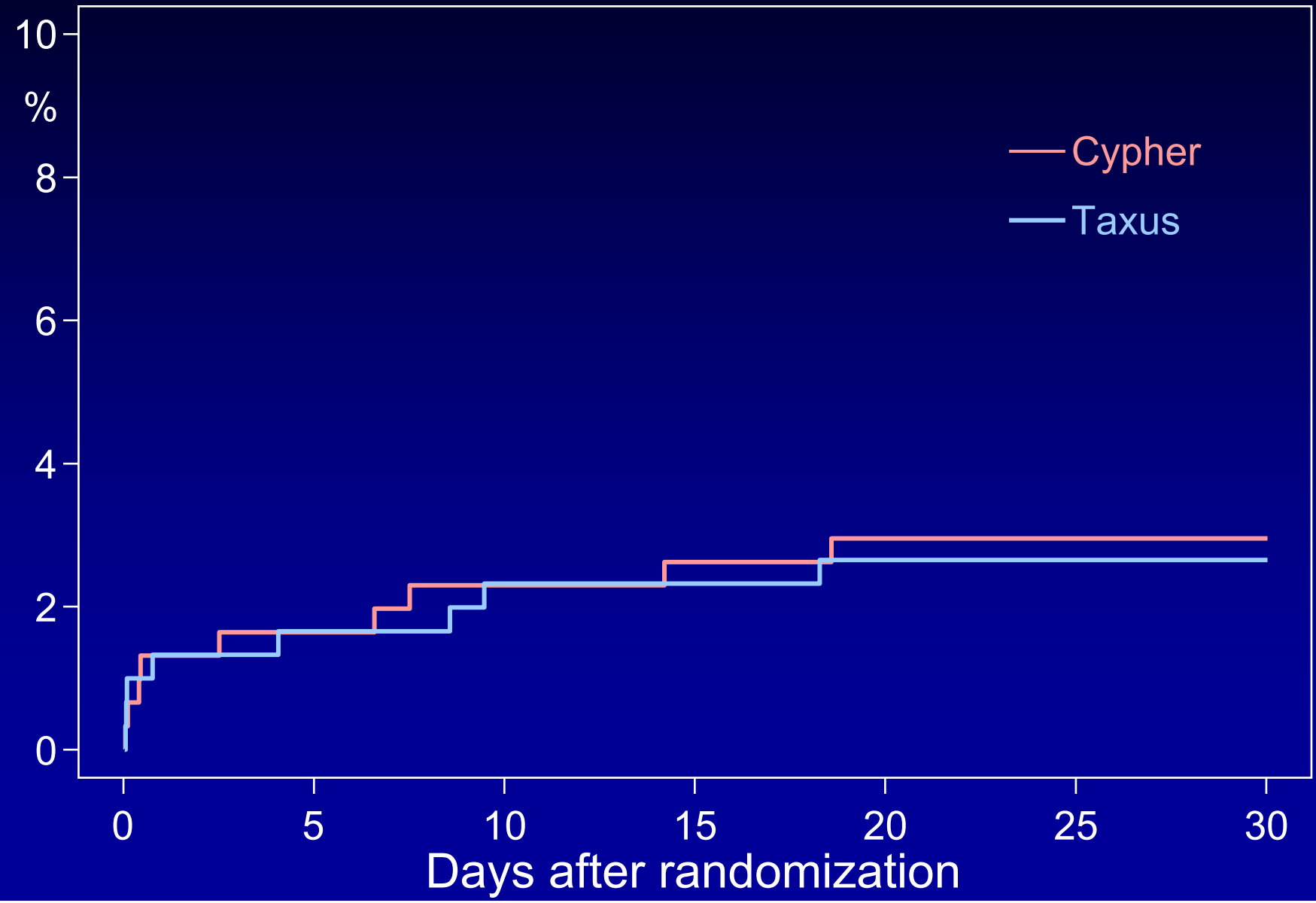
Incidence of Stent Thrombosis
- ARC Definition -



Death or Myocardial Infarction



Composite of Death, MI or Reintervention



Summary

This trial, the largest LM randomized trial to date, shows that unprotected LM stenting with Cypher or Taxus is feasible and safe at short-term.

Cypher and Taxus stents provide comparable short-term safety.

One-year outcomes (primary endpoint of the trial) will better clarify whether there are differences between these devices.