domains, including dyspnea, change in weight, change in NT-proBNP, and net volume loss (Table 1).

It is important to note that this study evaluated only patients with a history of chronic HF and moderate to high diuretic requirements. Therefore, these results may not apply to *de novo* HF patients, concluded Dr. Felker. DOSE protocol also allowed for changes in therapeutic strategy at 48 hours, based on clinical response. This and the study's limited power to detect differences in clinical events may have influenced results with regard to observed differences between the groups.

Table 1. Secondary Endpoints.

Secondary Endpoint	Low Intensification (1 x oral dose/d)	High Intensification (2.5 x oral dose/d)	p value
Dyspnea VAS AUC at 72 hours	4478	4668	0.041
% free from congestion at 72 hours	11%	18%	0.091
Change in weight at 72 hours	-6.1 lbs	-8.7 lbs	0.011
Net volume loss at 72 hours	3575 mL	4899 mL	0.001
Change in NT-proBNP at 72 hours	-1194 pg/mL	-1882 pg/mL	0.06
% Treatment failure (persistent HF, worsening renal failure, or death)	37%	40%	0.56
% with creatinine increase >0.3 mg/dL within 72 hours	14%	23%	0.041
Length of stay, days (median)	6	5	0.55

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Results from the JETSTENT Trial

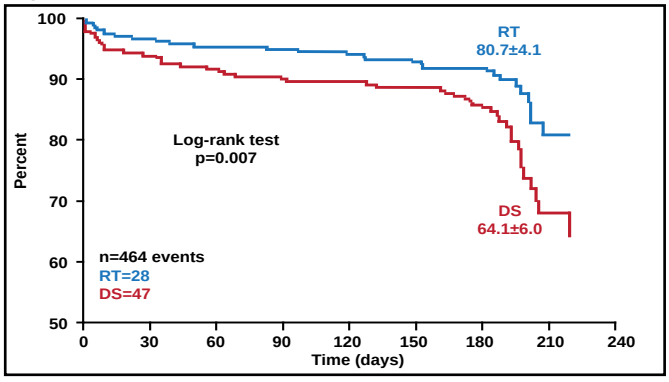
Rheolytic thrombectomy plus stenting is associated with better 6-month outcomes and improved myocardial reperfusion compared with direct stenting alone in patients with ST-elevation myocardial infarction (STEMI). While procedure time was higher in the thrombectomy group (60 minutes) than in the direct stenting group (46 minutes; p<0.001), this did not appear to impact the rate of procedural complications, such as the need for pacing to vessel perforation. David Antoniucci, MD, Careggi Hospital, Florence, Italy, discussed results from the Comparison of Angiojet Rheolytic Thrombectomy Before Direct Infarct Artery Stenting to Direct Stenting Alone in Patients with Acute Myocardial Infarction (JETSTENT; NCT00275990) Trial.

The JETSTENT study included 500 patients with STEMI within 12 hours of symptom onset, at least moderate thrombus burden, and infarct artery vessel diameter ≥2.5 mm. Patients were randomized to either rheolytic thrombectomy (RT) plus stenting (n=256) or direct stenting (DS) alone (n=245). The use of a temporary pacemaker and balloon predilation was strongly discouraged. Patients with recent stroke (≤30 days), recent surgery (≤6 weeks), a prestented infarct-related artery, or lysis were excluded from participation in the study. However, cardiogenic shock was not grounds for exclusion and accounted for 2.7% of patients in the RT group and 5.3% of patients in the DS group. The mean follow-up was 6 months, and the mean age was 63 years. Patients were well matched at baseline.

The primary surrogate endpoints were early ST-segment resolution, defined as ≥50% reduction in ST-segment elevation at 30 minutes, and final infarct size at one month, determined by scintigraphy. Clinical endpoints were major adverse cardiac events (MACEs) at 1, 6, and 12 months and death or readmission for congestive heart failure at 12 months. The secondary surrogate endpoints included Thrombolysis in Myocardial Infarction (TIMI) flow, corrected TIMI frame count, and TIMI blush grade.

There was no significant difference in final infarct size between RT and DS (p=0.40). However, ST-segment resolution at 30 minutes was significantly improved in patients who underwent RT compared with DS (p=0.04). However, anterior acute MI appeared to be a predictor of ST-segment resolution (p<0.001). At one month, there was a 2-fold increase in MACEs in patients who received DS compared with RT (6.9% vs 3.1% for RT; p=0.05). DS was also associated with higher rates of death, MI, total vessel revascularization, and stroke compared with RT at one month. This trend continued at 6 months, with the exception of stroke incidence, which was identical in both groups (0.4% for both). TIMI major bleeding occurred in 3.9% of RT patients versus 1.6% of DS patients (p=0.12). However, this difference did not reach statistical significance. Total MACE rate at 6 months was 20.7% for the DS group versus 12.0% for the RT group (p=0.01). Randomization to RT, age, and bleeding appeared to be predictors of MACEs at 6 months (Figure 1).

Figure 1. 6-Month MACE Kaplan-Meier Estimate.



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The JETSTENT trial demonstrated benefit for RT use in patients with STEMI. This strategy is associated with higher rates of early ST-segment resolution and improved clinical outcomes at 6 months. These improvements occurred without any apparent increase in stroke or major bleeding. Further evaluation is required to confirm the long-term safety and efficacy of this strategy.

Long-Term Results of the DEDICATION Trial Favor the Use of DES Over BMS

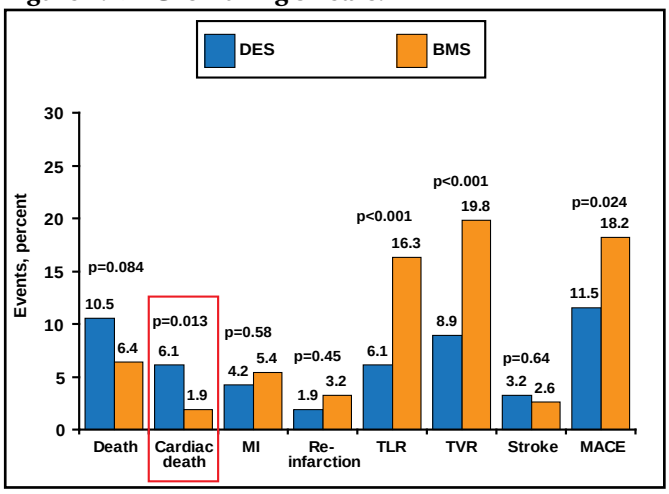
According to long-term follow-up results from the Drug Elution and Distal Protection During Percutaneous Coronary Intervention in ST-Elevation Myocardial Infarction (DEDICATION; NCT00192868) trial, drug-eluting stents (DES) reduced the rate of major adverse cardiac events (MACEs) and were not associated with an increased rate of myocardial infarction (MI) or stent thrombosis compared with bare-metal stents (BMS). However, an increased incidence of cardiac death was observed in the DES group. Three-year data from the DEDICATION study was presented by Peter Clemmensen, MD, PhD, Copenhagen University Hospital, Copenhagen, Denmark.

Thus far, DES have demonstrated favorable results with regard to safety and efficacy compared with BMS in patients with coronary artery disease, particularly among those with stable conditions. However, there is limited long-term data available regarding DES use in patients with ST-elevation myocardial infarction (STEMI) who have undergone percutaneous coronary intervention (PCI). Early results from DEDICATION favored DES, but higher mortality rates were associated with DES at 8 months (overall mortality 5.1% for DES vs 2.6% for BMS at 8 months; p=0.14). Therefore, long-term evaluation was warranted in order to confirm the impact of DES on mortality and MACE rates over time.

The 3-year follow-up included 573 patients from the DEDICATION trial who presented with signs and symptoms of a first-time large STEMI, chest pain ≤12 hours duration, and ST-elevation >4 mm in contiguous leads and had high-grade stenosis/occlusion of a native coronary artery that could be crossed with a guidewire. Patients with a history of MI, left main stem stenosis, recent gastrointestinal bleeding (≤1 month), comorbidities with expected survival of <1 year, and linguistic difficulties that required the use of an interpreter were excluded from study participation. Patients were well matched at baseline, and ~65% of patients in both groups had one vessel disease and Thrombolysis in Myocardial Infarction (TIMI) flow grade 0 to 1 at baseline.

The endpoints were MACEs (defined as a composite of cardiac death, reinfarction, and total lesion revascularization), cardiac death, total mortality, MI, total lesion revascularization (TLR), total vessel revascularization (TVR), and stroke at 3 years. Overall, MACEs were less frequent in the DES group (11.5%) than in the BMS group (18.2%) at 3 years (p=0.024). However, the rate of cardiac death (6.1% vs 1.9% for BMS) and all-cause death (10.5% vs 6.4% for BMS) was higher in the DES group. The rates of TLR and TVR were significantly lower for DES compared with BMS (p<0.001 for both). There was no significant difference in the rates of MI or reinfarction between the two groups at 3 years (Figure 1).

Figure 1. MACEs During 3 Years.



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It is important to note that the incidence of stroke was similar between the two groups at 3 years. Though the general theory has been that DES lead to more stent thromboses, this was not the case in the DEDICATION trial, Prof. Clemmensen concluded. DES effectively reduced the rate of MACEs and the need for repeat revascularization in STEMI patients without associated increases in the incidence of MI or stent thrombosis. The increased risk of cardiac death that was associated with DES merits further investigation and should be considered before choosing a treatment strategy.

Long-Term Follow-Up of the PASSION Trial

Rates of cardiac death, myocardial infarction (MI), or target lesion revascularization (TLR) in patients with acute ST-elevation MI (STEMI) who were treated with paclitaxel-eluting stents (PES) were similar in those who were treated with bare-metal stents (BMS) at 5 years. However, there was a trend toward a higher rate of late stent thrombosis