Conclusions: The long-term prognosis after percutaneous treatment of diseased SVGs is poor. This study failed to show a procedural or long-term clinical advantage for the Symbiot PTFE-covered stent in the treatment of degenerated SVG.

TCT-549

Impact Of Clinical Presentation On In-Hospital Bleeding Outcomes In Percutaneous Coronary Intervention

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Background: Acute myocardial infarction (MI) and cardiogenic shock are known to predict bleeding in patients undergoing percutaneous coronary intervention (PCI). However, the association between the severity of clinical presentation and bleeding after PCI has not been well defined. This study aims to compare the impact of the spectrum of clinical presentation on PCI-related bleeding.
Methods: The study included a cohort of 22686 consecutive patients who underwent PCI. Patients were categorized according to their clinical presentation: stable angina pectoris (SAP, n=6232), unstable angina pectoris (UAP, n=4705), non ST-segment elevation MI (NSTEMI, n=8335), ST-segment elevation MI (STEMI, n=2562) and cardiogenic shock (CGS, n=852).
Results: The mean left ventricular ejection fraction (LVEF) of patients decrease from SAP to CGS.(Table) There was greater use of intra-aortic balloon pump (IABP) and glycoprotein inhibitors with increasing severity of clinical presentation. The incidence of major bleeding, defined as gastrointestinal bleeding, hematocrit drop and major hematoma, increased with severity of clinical presentation, from 0.7% in SAP to 15.4% in CGS. The need for blood product transfusion followed a similar increase across the clinical spectrum, lowest in SAP (2.1%) and highest in CGS (27.4%). The in-hospital mortality rate corresponded with the severity of clinical presentation.

Table: Patient and procedural characteristics and in-hospital bleeding and mortality

	SAP (n=6232)	UAP (n=4705)	NSTEMI (n=8335)	STEMI (n=2562)	CGS (n=852)	P value
Age, years	65.7 ± 11.3	64.4 ± 11.9	63.9 ± 58.9	62.2 ± 13.7	64.7 ± 14.2	0.001
LVEF, %	51 ± 14	50 ± 15	48 ± 14	42 ± 14	34 ± 14	<0.001
Intra-aortic balloon pump, %	1.0	1.9	2.7	11.9	57.3	<0.001
Glycoprotein receptor inhibitors, %	8.8	10	19.7	21.1	26.7	<0.001
Major bleeding, %	0.7	1.1	2.0	4.3	15.4	<0.001
Gastrointestinal bleeding, %	0.3	0.4	0.8	0.8	5.8	<0.001
Hematocrit drop, %	0.6	0.9	1.5	4.0	13.1	<0.001
Major hematoma, %	0.2	0.2	0.3	0.7	1.5	<0.001
Need for blood transfusion, %	2.1	2.8	4.3	7.8	27.4	<0.001
In-hospital death, %	0.2	0.4	0.9	2.3	22.5	<0.001
In-hospital cardiac death, %	0.1	0.3	0.6	1.9	18.7	<0.001

Conclusions: In patients undergoing PCI, the worsening severity of clinical presentation corresponds to an increase in incidence of in-hospital bleeding. This may be due to the increased use of more aggressive adjunct pharmacotherapy and IABP.

TCT-550

The Impact Of Upstream Anticoagulation On In-Hospital Bleeding In Patients With Acute Coronary Syndrome Undergoing Percutaneous Coronary Intervention

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Background: In acute coronary syndromes (ACS), upstream anticoagulation such as unfractionated heparin (UFH) or low molecular weight heparin (LMWH), is frequently administered prior to percutaneous coronary intervention (PCI) to decrease ischemic complications. This study aims to compare the in-hospital bleeding complications of patients who received upstream UFH versus upstream LMWH versus none.
Methods: The study included 6772 consecutive patients presenting with ACS who underwent PCI. Patients were categorized into upstream therapies of UFH (n=881), LMWH (n=2554), and none (n=3337). Patient and procedural characteristics and incidences of in-hospital bleeding complications and mortality were compared among groups.
Results: The mean age was 63.4 years overall. Cardiogenic shock was present in 14.8%, 8%, and 3.2% (p <0.01) of patients given upstream therapies of UFH, LMWH and none, respectively. Similarly, the use of IABP was 16.9%, 11.6% and 6.2% (p <0.001) respectively. Glycoprotein receptor inhibitor use was 24.3%, 14% and 6.4% (p<0.001) respectively. During PCI, heparin use was 27.5%, 17.7% and 11.3% (p <0.001). Mean dosages given were 1361U, 2126U, and 2689U (p <0.001). Conversely, bivalirudin use was 50.2%, 70% and 86.8% (p <0.001) in upstream UFH, LMWH and none, respectively. In-hospital major bleeding (defined as gastrointestinal bleeding, significant hematocrit drop and major hematoma) and mortality rates were highest in patients given upstream UFH, followed by LMWH and none. (Table)

Table: In-hospital bleeding complications and mortality

	Upstream unfractionated heparin (n=881)	Upstream low molecular weight heparin (n=2552)	No upstream anticoagulation (n=3334)	P-value
Major bleeding, %	5.3	4.6	2.4	<0.001
Gastrointestinal bleeding, %	1.5	1.1	0.8	<0.001
Hematocrit drop, %	4.3	3.9	2.0	<0.001
Major hematoma, %	0.9	0.5	0.3	<0.001
Need for blood transfusion, %	10.0	8.2	5.2	<0.001
Death, %	4.9	3.3	2.5	<0.001
Cardiac death, %	3.7	2.5	2.1	0.019

Conclusions: ACS patients given upstream UFH were most ill on presentation, they received a higher amount of potent antithrombotic therapies during PCI as compared to LMWH and no upstream anticoagulation. The additive contributions of antithrombotic therapy, both upstream and during PCI, may account for the higher incidence of bleeding in patients receiving upstream UFH and LMWH compared to no upstream anticoagulation.

TCT-551

Prophylactic Use of Intracoronary Nicardipine in Conjunction with Distal Protection Devices During Vein Graft Intervention: Synergistic Effect of Combining Drugs and Devices

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Background: Percutaneous coronary intervention (PCI) of saphenous vein grafts (SVG) is associated with a high risk of complications due to distal embolization and no-reflow. Although distal protection devices are routinely used, periprocedural ischemic complications still occur in up to 10% of SVG interventions. Intracoronary vasodilating drugs are effective in treating no-reflow and may have a salutary effect if administered prior to PCI. The goal of this study was to assess the efficacy of prophylactic intracoronary (IC) nicardipine in conjunction with distal protection devices during SVG intervention.
Methods: The clinical outcomes at 30 days were assessed in 163 consecutive patients undergoing PCI of SVG with use of distal protection devices. In Group I, 60 patients underwent PCI with a distal protection device alone (no pretreatment nicardipine). In Group II, 103 patients underwent PCI with both distal protection device and prophylactic IC nicardipine (initial 200 mcg bolus before filter placement and supplemental 100 mcg doses before balloon and stent inflations). The incidence of 30 day MACE (death, MI, CABG, or repeat PCI) was compared in the two groups. Periprocedural MI was defined as elevated cardiac markers > 3 times the upper normal limit.
Results: Group I and Group II had similar baseline patient demographics including age (71±8 vs 72±10 years), diabetes (47 vs 44%), and ACS (58 vs 70%); all p=ns. SVG age was also similar in the two groups (13.1 ± 6.3 vs 13.4 ± 5.6 years, p=ns). Group II had longer lesion length requiring longer total stent length (22.7 ± 11.6 vs 28.2 ± 16.8 mm, p= 0.026) and were more likely to have ACC/AHA Class C lesions (13 vs 30%, p= 0.015). At 30 days, MACE occurred in 10.0% of Group I and in 1.0% of Group II (p= 0.01). Mortality was 3.3% in Group I and 0 in Group II (p= 0.13). Incidence of MI was 10.0 vs 1.0% (p= 0.01). Within 30 days, there were no CABG, repeat PCI, or stent thromboses in either group.
Conclusions: Prophylactic use of intracoronary nicardipine prior to SVG intervention has synergistic effects when combined with distal protection devices. Dual protection with drugs and devices is associated with better outcomes than with distal protection devices alone.

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