1079-83 **Clinical Results Using the St. Jude Medical "Symmetry" Aortic Connector System in 400 Coronary Artery Bypass Patients**

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Background:
The St. Jude Medical "Symmetry" aortic-saphenous vein graft connector system was introduced in the U.S. in 2001 as a suture-less method of performing proximal aorto-saphenous vein anastomoses during coronary bypass surgery.
Methods:
Over a 27-month period (6/2001 to 9/2003) over 650 aortic-saphenous vein connectors were deployed in 400 coronary artery bypass graft (CABG) patients at our institution. The mean patient age was 66 years (range 37-86), and 65% of patients were male. The majority of patients were first-operation CABG, while 10% (41/400) were either re-do CABG or combined valve-CABG procedures. Off-pump procedures were performed in 28% (99/359) of the first-time CABG procedures. Data for this study were gathered in a prospective fashion with regard to connector usage, while outcomes data were derived retrospectively from the cardiac surgery database.
Results:
Only 18 connectors required conversion to a hand-sewn anastomosis after deployment, primarily because of excessive bleeding at the anastomotic site. While re-exploration for bleeding was required in 2.7% (11/400) patients, bleeding was never attributed to the proximal connector site. Neurologic complications (stroke or delirium) occurred in 1.7% (7/400) of patients, and there were no post-operative myocardial infarctions. Post-operative (30-day) mortality was 2.2% (9/400) for this group of patients. To date we have documented only 3 graft failures attributed to the use of the proximal connector, with 2 occlusions and 1 ostial stenosis.
Summary:
Our substantial early experience with the "Symmetry" aortic-saphenous vein connector has demonstrated that a precise and hemostatic aortic-proximal saphenous vein connection is created using the system. There has been no documented morbidity related to the use of the connector in over 2 years of use. While long-term results with regard to graft patency have yet to be determined, our short-term operative results using the "Symmetry" connector appear to be no different than historic results for our program.

1079-84 **Utility of Routine Functional Testing After Coronary Artery Bypass Graft Surgery: Results From the ROSETTA-CABG Study**

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Background: There is little consensus regarding the use of functional testing after coronary artery bypass graft surgery (CABG).
Objectives: To examine the effects of routine post-CABG functional testing on the use of follow-up cardiac procedures and clinical events.
Methods: The Routine versus Selective Exercise Treadmill Testing after Coronary Artery Bypass Graft Surgery (ROSETTA-CABG) Registry is a prospective multicenter study examining the use of functional testing after CABG. A total of 357 patients were enrolled at 16 clinical centers in 6 countries. A functional test was defined as one of the following: exercise treadmill testing, stress echocardiogram or stress nuclear perfusion imaging.
Results: During the 12 month follow-up, 95 patients undewent a routine functional testing strategy (100% having functional testing for routine follow-up), while 249 patients underwent a selective strategy (88% having no functional testing and 12% having functional testing for a clinical indication). There was little difference in the rates of follow-up cardiac procedures among the patients undergoing the routine and selective testing strategies (cardiac catheterization 1.1% vs 1.2%, p=NS; percutaneous coronary intervention [PCI] 1.1% vs 0.4%, p=NS; repeat CABG surgery 0.0% vs 0.0%, p=NS). However, clinical events were less common among patients who underwent routine functional testing including unstable angina (0.0% vs 1.6%, p=0.048), death (2.1% vs 0.8%, p=NS), composite clinical events (2.1% vs 2.4%, p=0.03) but not myocardial infarction (0.0% vs 0.0%, p=NS). After controlling for baseline clinical and procedural differences, routine functional testing had a persistent independent association with a reduction in the composite clinical event rate (odds ratio=0.18, 95% confidence interval: 0.04 – 0.85, p=0.03).
Conclusion: Routine functional testing after CABG is associated with a reduction in the frequency of follow-up clinical events. This association may be attributable to the early identification and treatment of patients at risk for follow-up events, or it may be due to clinical differences between patients who are referred for routine and selective functional testing.

1079-85 **Adjunctive Treatment With a Stent-Based Ventricle to Coronary Artery Bypass (VSTENT™) in Patients With Multivessel Disease Undergoing Coronary Artery Bypass Surgery (ADVANTAGE)**

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Background: We here report on the Munich experience using a stent-based approach for surgical ventricle to coronary artery bypass which provides systolic instead of diastolic blood flow distal to a high grade coronary artery stenosis. In addition to providing flow to the distal vessel, collateral development and arterial remodeling might be induced by VSTENT™ implantation.
Methods: In 11 patients (age 60 ± 4 y) undergoing multivessel coronary artery bypass surgery a ventricle to coronary artery bypass was established using a ePTFE-membrane covered VSTENT™ between the left ventricle and an obtuse marginal branch (n=6), a ramus intermedius (n=1) or a diagonal branch (n=4) distal to a high grade coronary artery stenosis.
Results: Epicardial coronary flow (flow wire) measurements including determination of adenosine induced flow reserve and dobutamine stress testing were performed before and after VSTENT™ implantation. Flow wire measurements assessed before and 7 days after VSTENT™ implantation revealed a change of coronary flow pattern from diastolic to predominantly systolic flow (systolic/diastolic flow ratio: 0.3±0.1 to 1.6±0.3, p<0.01). During dobutamine stress testing no regional wall motion abnormalities were detected in the area supplied by the VSTENT™ and none of the patients developed clinical or electrocardiographic signs of ischemia. 6 months angiographic follow up will be available at presentation. Conclusions: Surgical VSTENT™ implantation providing a ventricle to coronary artery bypass was feasible and safe in the short term follow up and was associated with a significant change of coronary flow pattern from diastolic to predominantly systolic flow distal to a high grade stenosis of the native vessel at rest and under stress testing.

1079-86 **The Introduction of Drug-Eluting Stents Causes a Shift From Coronary Artery Bypass Graft Towards Percutaneous Coronary Intervention: One-Year Outcome of a Single-Center Experience of 2,200 Consecutive Procedures**

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Background: Sirolimus-eluting stents (SES) were introduced for routine use in Europe in April 2002. To study the impact of this new treatment on the overall clinical management of candidates for revascularization, we evaluated a series of unselected consecutive procedures during 6 months after the introduction of SES and during the 6 months before. Methods: Patients who are referred to our institution for coronary revascularization are routinely discussed by a team consisting of thoracic surgeons and interventional cardiologists, who conjointly select the optimal treatment. Since the introduction of SES on April 16, until October 15 2002, 798 consecutive patients were referred to PCI and 275 patients to CABG (SES-group). For comparison, we evaluated a pre-SES group composed of all PCIs (n=806) and CABGs (n=314) performed over the same 6-months period immediately prior to April 15th, 2002. The primary endpoint was major adverse cardiac events (MACE) at one year. Results: Compared to the pre-SES era, patients treated with SES had more anatomical complex procedures, such as more multivessel dilatations (28% vs 24%;p=0.04), more bifurcation dilatations (18% vs 7%;p<0.0001) and the use of more stents (1.9 vs 1.5;p=0.01). In the CABG population a shift was observed towards more 3 vessel disease (3VD: pre-SES:64%, post-SES:77%;p=0.01). At one year PCI patients treated with SES had a 25% reduction in MACE as compared with the pre-SES stent group (14.4% vs 19.6%; p<0.01). Of the CABG patients only 5.0% had MACE in both study phases. Conclusions: While the incidence of MACE in CABG patients remained virtually the same, the introduction of SES and the 25% reduction of coronary reinterventions certainly has an impact on clinical practice regarding the choice betrween CABG or PCI. Despite more multivessel disease patients and the treatment of more bifurcation lesions, the incidence of MACE after PCI decreased. PCI with SES is closing in on CABG.

1079-87 **Predictors of 10-Year Patency of Saphenous Vein and Left Internal Mammary Artery Grafts After Coronary Artery Bypass Surgery: Results From a Department of Veterans Affairs Cooperative Study**

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Background: The long-term success of coronary artery bypass grafting (CABG) is dependent upon the patency of the grafts that are placed at the time of surgery. This VA Cooperative Studies Trial prospectively defined long-term (ten-year) saphenous vein graft (SVG) patency in 1,076 patients and left internal mammary artery (IMA) patency in 471 patients undergoing CABG.
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Methods: Patients underwent serial cardiac catheterizations at 1 week, 1 year, 3 years, 6 years and 10 years after CABG.
Results: Patency at ten years was 59% for SVGs and 84% for IMA grafts. If a SVG or IMA graft was patent at one week, that graft had a 67% and 87% chance, respectively, of being patent at ten years. At ten years the SVG patency to the LAD (66%) was better (P<0.001) than to the right coronary artery (54%), or circumflex (57%). In vessels > 2.0 mm in diameter the ten-year SVG patency was 88% versus 53% in vessels ≤ 2.0 mm (P<0.001). The other significant positive ten-year predictors of graft patency were age of patient, presence of angina, dyspnea on exertion, vein harvesting technique, serum cholesterol, and use of topical flush to prepare the vein. Type of preservation solution, Canadian Functional Class, cardioplegic solution given via graft, and lowest body temperature are mildly predictive of 10-year graft patency, p=0.05–0.10.
Conclusions: Based on prospective angiographic follow-up after CABG, the long-term patency for SVGs is better and the long-term patency for IMA grafts is worse than expected. The best long-term predictors of graft patency are: 1) grafting into the LAD and 2) grafting into a vessel that is >2.0 mm in diameter.