P3506 The thickness of the vein determines the long-term outcome after autologous venous-graft covered stent implantation: new insights

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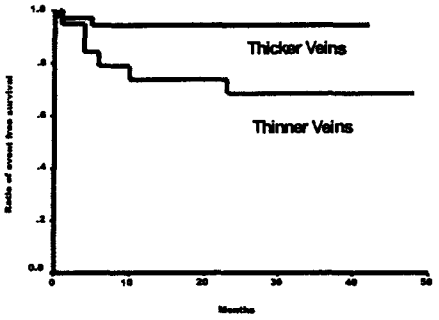
Previous studies have shown that the implantation of autologous venous graft-covered stents (AVGCS) may be performed without acute complications. However, the long-term follow-up and also the procedure related factors determining the late outcome remain unknown.

Methods: Conventional stents were covered by autologous venous grafts. Forty-three grafts were removed from the anterobrachial region (thicker veins) and 15 from the deltoideopectoral sulcus (thinner veins). The stents were covered by the graft. Non-premounted (Palmaz™, Palmaz-Schatz™) and premounted stents (Multilink™) were used. Fifty-eight AVGCSs were implanted in 56 patients (pts). Follow-up was obtained in all pts until 41.7 ± 12.4 months.

Results: The procedure of AVGCS preparation and delivery to the target vessels was performed without complications. One patient suffered from subacute thrombosis. The angiographic restenosis rate was 13.3% and the target lesion revascularization rate was 12%. The event-free survival rate at 4 years was 86%. The event-free survival rate was greater in pts with stents covered by thicker venous grafts (94% vs 68%, respectively, $p < 0.02$, figure).



A relative risk of 5.8 was found in pts in which a venous graft was obtained from the deltoideopectoral sulcus (95% confidence interval: 1.2–28.9, $p < 0.03$).

Conclusions: In a four-year follow-up period after the implantation of AVGCS the clinical outcome is favorable and late procedure-related complications were not detected. Moreover, the thickness of the venous graft used for covering the stents is a prognostic factor for long-term outcome.

P3507 Short-term and long-term clinical outcome of coronary stenting in small coronary arteries

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Objective: To assess clinical outcome of coronary stenting in small vessels (<3mm) using high pressure balloon inflation and antithrombotic therapy.

Methods: Vessel size was evaluated as < or >= 3mm at the time of procedure, and measured at level of maximum diameter. We studied 234 consecutive patients with placement of 300 stents in 279 lesions, comprising 84 stents implanted in 79 lesions located at small vessels. Standard technique included high pressure balloon inflation (15.8±2.1 atm) ant post-stenting therapy with aspirin and ticlopidine during one month. Major clinical events were stent thrombosis, target lesion revascularization (TLR), death and myocardial infarction. Patients were contacted during scheduled visits to the hospital and within clinical need. Mean clinical follow-up was 17.5±10 months. Rates of events were studied using Kaplan-Meier analysis.

Results: Procedural success, without in-hospital clinical events, was similar between small and large vessels (93.7% vs 93.5%, p=0.9). Three small vessels had subacute stent thrombosis, whereas no thrombotic occlussion ocurred in large vessels (3.8% vs 0%, p=0.006). At two years, small vessels had a lower survival free of TLR (73.6% vs 90.3%, p<0.001). After adjusted for variables previously described as predictors of stent restenosis, a small vessel was an independent predictor of TLR (p=0.001, OR 3.2). Patients with stenting in small vessels did not differ significantly in terms of cumulative rates of all-cause death (4.6% vs 3.8%, p=0.7) and myocardial infarction (2.9% vs 1.1%, p=0.3). At two years, the rate of survival free of clinical events was significantly lower in patients with stenting in small vessels (69.1% vs 86.6%, p<0.001).

Conclusions: As compared to large vessels, coronary stenting in small vessels was performed with similar rates of initial success, however, had a significant worse long-term clinical outcome in terms of stent thrombosis, target lesion revascularization and event-free survival.

P3508 Factors determining major cardiac events at follow-up after stent treatment of bifurcational lesions

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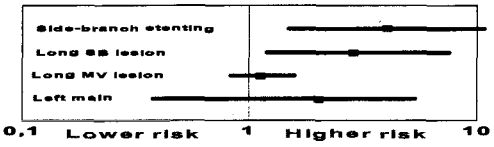
Bifurcation lesions may appeared with a wide variety of angiographic features which makes difficult to standardize the percutaneous treatment. Although some classifications and several percutaneous approaches have been proposed, none of them has been definitively accepted.

Methods: We analyzed our 5 years experience of stenting treatment for bifurcated lesions in order to identify the more favourable candidate and the best therapeutic strategy. Between May-94 and May-99, 160 patients 58 ± 13 years old, were treated by stent implantation at a major bifurcation. Inclusion criteria were: 1) main vessel > 2.5 mm diameter and side branch > 2 mm diameter 2) significant stenosis (>50%) in both, main vessel (MV) and side branch (SB) origin and 3) treatment by deployment of one stent at the parent vessel and either balloon dilation or stenting of SB. Thirty variables including clinical, angiographic, procedural and ultrasonic were studied by univariate analysis and those with near significant p value were included in a multivariate logistic regression model. We considered major cardiac events (MACE): death, acute myocardial infarction and need for follow-up revascularization.

Results: 35 (22%) patients had any type of MACE during a mean follow-up time of 24 ± 12 months. The 4 variable selected for inclusion in the logistic model were: Bifurcation located at left main, length of lesion at MV, length of lesion at SB and stenting of SB. The Odds Ratio and the 95% CI are shown in the figure.



Conclusion: The length of the side branch lesion and aggressive stent reconstruction of the bifurcation with stenting at side branch are independent factors Of poor outcome at follow-up.

P3509 Directional atherectomy prior stenting in bifurcation lesions: a matched comparison study with stenting alone

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Introduction: The ideal catheter-based intervention for treatment of coronary bifurcation lesions still has to be defined. We report the acute and long term outcome after treatment of bifurcation lesions with directional atherectomy plus stenting (DCA+stent). Matched comparison with stenting alone (SA) was performed.

Methods: 31 consecutive patients(28 male,mean age 56.8±10.8)with bifurcation lesions(62 lesions),(treated side branch>2.0 mm,%DS>50)were treated with DCA+stent at least in one branch (group I) and compared with 31 patients with bifurcation lesions (62 lesions),(treated side branch>2.0 mm,%DS>50)treated with SA at least in one branch (group II).The two groups were matched for the prevalence of diabetes,vessel size,lesion length(LL) and stenting strategy(stent in one or both branches).

Results: Baseline patient characteristics were similar in the two groups (p>0.05).There was a significant smaller baseline MLD and greater%DS of side branch in group II.Location of bifurcation site was different between groups(LAD/LCX 35.5% vs 6.5%, LCX/OM 12.9% vs 45.2% in group I and II respectively, p=0.01).Type B2 and C lesions and restenotic lesions were more frequent in group I (93.5% vs 72.58 p=0.01 and 12.9% vs 3.2% p=0.04 respectively). In group I, DCA was performed in one branch in 34 lesions and in both branches in 28 lesions. Stents were implanted in both branches in half of the patients in each groups. Post-procedural MLD and acute gain in the main branch were significant greater in group I(3.36±0.63vs2.90±0.54,p=0.004 and 2.32±0.72vs1.97±0.70,p=0.05 respectively). At f-up QCA, MLD in the main branch was greater in group I (2.31±1.05vs1.65±0.94,p=0.05).Loss index was similar in two groups(p=ns). Angiographic f-up rate was not significantly different between two groups(83.9%vs74.2%,p=ns). Angiographic restenosis was 28.8% in group I vs 43.5% in group II(p=ns).In-hospital MACE occured more frequently in group I(12.9%vs0%,p=0.03),while f-up MACE were similar in two groups(29.0%vs48.4%,p=ns).

Conclusions: Treatment of bifurcation lesions with DCA+stent results in greater acute gain compared with SA. This greater gain in MLD is maintained at f-up, although the difference in restenosis rates did not reach statistical significance.