Abstract: Percutaneous coronary intervention of saphenous vein graft

Authors: A Aviles Toscano, M Cano-Garcia, LD Munoz Jimenez, C Sanchez Gonzalez, CA Urbano Carrillo, Regional University Hospital Carlos Haya, Cardiology - Malaga - Spain,

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Background: Following CABG, ischemia may be caused by the progression of the disease in native vessels or by stenosis in the grafts. Repeat revascularization is indicated if there are significant symptoms despite medical treatment, and also for asymptomatic patients if there is objective evidence of myocardial ischemia. A new CABG increases mortality 2-4 times compared to the first. PCI is the preferred revascularization option, especially in patients with permeable left AMI graft and adequate anatomy. PCI of saphenous vein grafts are associated with an increased risk of distal coronary embolization (increased periprocedural MI risk, more friable atheroma and susceptibility to embolization). Long-term studies DES vs. BMS give contradictory results.

Purpose: To compare percutaneous intervention on saphenous grafts with bare metal stents (BMS) versus drug-eluting stents (DES). To analyze the need for new revascularization, myocardial infarction and mortality due to cardiovascular causes in each treatment group.

Methods: Observational, retrospective and monocentric study. We included patients with "de novo" lesions in saphenous vein grafts, between 2006 and 2016. We analyzed: 1) Need for new revascularization, 2) Non-fatal myocardial infarction, 3) Death from cardiovascular cause.

Results: We included 120 lesions belonging to 82 patients (1.37 ± 0.69 lesions treated / patient). PCI was performed by BMS in 18 lesions (15%) and DES in 102 lesions (85%). The indication for ACS was 7 patients (58%) in the BMS group and 44 patients (62%) in the DES group (p=0.72). The mean age of the patients was 70.5 ± 6.4 vs 69.5 ± 7.5 years (p=0.67). There were no significant differences in the presence of risk factors, AMI or ejection fraction. The saphenous grafts had an average age of 12.9 ± 7.4 vs 13.9 ± 6.4 years (p = 0.55). The severity of the lesions was 90.2 ± 10.1 vs 88.2 ± 10.3% (p = 0.54), with an average of 1.89 ± 1.23 vs 1.43 ± 0.69 lesions / patient (p = 0.142) and implanting 1.11 ± 0.32 vs 1.12 ± 0.41 stents / lesion (p = 0.86). The mean time of follow-up was 5.0 ± 2.7 years. The need for revascularization of the target lesion was 7 lesions (38.8%) in the BMS group vs 14 lesions (13.7%) in the DES group (p = 0.022). The presence of AMI due to the target lesion was 5 patients (27.7%) vs 6 patients (6.1%), p = 0.014. There were no significant differences, however, in cardiovascular cause mortality (0% vs 5.6%). All the patients were in treatment with ASA. All the patients were in treatment with ASA. There were no differences regarding the number of patients who were on dual antiplatelet therapy for 1 year (BMS 75% vs DES 80.5%, p = 0.45).

Conclusions: In our series, the result of PCI with DES was better in terms of the need for new revascularization and AMI, although it did not translate into mortality due to cardiovascular causes.