A total of 289 sites in 50 patients were analyzed at all three time points. Intimal area was measured at all three time points. Intimal area was defined as the difference between external elastic lamina and lumen areas. A new lesion identified on follow-up at a previously normal site was defined as a de novo lesion.

Methods: Two groups (Gr.) of patients (P) were studied sequentially. Gr I (20 P) immediately (± 3 months) and 15 months after heart transplantation (Htx). Gr II (20 P) late (± 12 months, mean ± 26) after Htx and 12 months thereafter. Baseline and hyperemic coronary flow average peak velocity were measured to calculate CFR. (102-140 adenosine, 0.014 in Doppler guide wire). IVUS was performed to determine the mean plaque index (PI = [vessel area - lumen area] / 100-vessel area) of the vessel studied with Doppler. The use of a motorized IVUS pull-back system in all 92 studies allowed the identification of corresponding sites between baseline (Basel) and follow-up (F-up) study.

Results:

- For Gr I, PI at 1 and 2 years after transplantation (mean 28 ± 17, 370 ± 3, and 761 ± 49 days, respectively). At a series of matched sites, maximum intimal thickness (Pmax) and intimal area were measured at all three time points. Intimal area was defined as the difference between external elastic lamina and lumen areas.

- For Gr II, PI at 1 and 2 years after transplantation (mean 28 ± 17, 370 ± 3, and 761 ± 49 days, respectively). At a series of matched sites, maximum intimal thickness (Pmax) and intimal area were measured at all three time points. Intimal area was defined as the difference between external elastic lamina and lumen areas.

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