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Titel des Beitrags: Graft function, histopathology and morphometry of radial arteries used as conduits for myocardial revascularization in patients beyond age 70.

Abstract: BACKGROUND: Coronary artery bypass grafting (CABG) using radial arteries has become a standard procedure for younger patients in many centers. However, advanced atherosclerotic changes may limit its use in older patients. We studied the effects of age on morphologic and histopathologic findings in CABG patients aged 70 years and older. METHODS: In 31 consecutive patients aged 70-85 (mean 77 +/- 8 years) scheduled for elective CABG, the left or right radial artery (RA) was used to graft the second target vessel (first graft: LIMA-LAD). Preoperative Doppler flow and Allen's test were satisfactory. Intraoperatively the distal segment adjacent to the anastomosis site of the RA was collected for histologic evaluation. Intraoperative angiography, measurement of flow, and resistance index (PI) were performed to document graft quality. Histopathology and morphometry were used to measure intimal and medial areas (IA, MA; microm2), intimal thickening index (ITI), relation between intimal and medial width at maximum intimal thickness (IMR), and percentage of luminal narrowing (%LN). RESULTS: The RA showed no evidence for stenosis of the conduits or the anastomosis. In all grafts flow and PI were satisfactory (76 +/- 14 ml/min; PI: 2.2 +/- 0.9). Histopathology and morphometry showed...
atherosclerotic changes in all RA grafts: IA: 890 +/- 971 (range 286-5244), MA: 2751 +/- 818 (range 1357-4989), ITI: 0.26 +/- 0.09 (range 0.12-0.44), IMR: 0.59 +/- 0.28 (range 0.21-1.13) %LN: 38 +/- 5 (range 13.2-61.7). Age as well as classic risk factors including diabetes, hypertension, smoking, and hyperlipidemia did not correlate with RA atherosclerosis. CONCLUSIONS: Excellent macroscopic and angiographic results were obtained. All grafts used showed minor to moderate atherosclerotic changes without severely altered indices of intimal thickening or luminal narrowing. The radial artery must be used with caution; however, age should not be an exclusion criterion per se.

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