# Choice of grafts

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Results of coronary bypass surgery performed by one surgeon from January through December 1972 were reviewed. Patients having concomitant valve surgery were excluded.

One hundred forty patients were operated on. There were two hospital deaths and seven late deaths. Two of the late deaths were due to cancer and the remaining five were considered cardiac. These occurred 3 months (1), 3 years (2), 4 years (1), and 5 years (1) after operation. Four patients were lost to follow-up 2 or more years after operation.

Of the 140 patients, 20 had single grafts, 49 had double grafts, 58 had triple grafts, 12 had quadruple grafts, and one had quintuple grafts. Of the 345 grafts, 120 were mammary arteries and 225 were saphenous vein segments. Saphenous vein segments were removed from below the knee and measured 2.5 to 4.0 mm in diameter. Arteriotomies and anastomoses were performed with high magnification (Zeiss Operation Microscope, 16×).

Of the 127 patients contacted 5 years after operation, 90 (70%) had no angina after operation and 37 (30%) had at least one episode of angina after operation. Thirty patients considered the angina to be less severe than before

operation, six considered it to be the same, and one considered it to be worse than before operation.

Twenty-eight of the 37 patients could date the onset of angina; in four it occurred less than 1 year after operation, in five it occurred 1 year after operation, in four it occurred 2 years after operation, in six it occurred 3 years after operation, in six it occurred 4 years after operation, and in three it occurred 5 years after operation.

Three patients sustained nonfatal myocardial infarction after operation.

None of the 17 patients who had only mammary artery grafts had angina, myocardial infarction, or died.

Angiography was requested of patients who had angina or myocardial infarction. It was performed in 21 of the 140 patients. Nineteen of 20 internal mammary artery grafts and 25 of 29 saphenous vein grafts were widely patent. The cause of angina was most often considered to be the diffuse nature of the coronary sclerosis.

Analysis of the seven cardiac deaths (two operative and five late) implicated severe scarring of the ventricle and poor distal segments as the cause of four deaths, severe stenosis of saphenous vein grafts as the definite cause of one death, and presumed stenosis or occlusion of grafts as the probable cause of the remaining two deaths.

Choice of grafts in any individual case is best decided by comparing the quality of the mammary artery and the available saphenous vein segments and aorta.