

Comparison Of Coronary Bypass Surgery With Angioplasty In Patients With Multivessel Disease (BARI)

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Clinical Question / Statement:

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In selected patients with multivessel disease suitable for treatment with either CABG or PTCA, an initial strategy of PTCA does not result in a poorer five-year clinical outcome than CABG.

Endpoints:

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Primary: Mortality from all causes
Secondary: Rates of survival free of Q-wave MI

Enrollment:

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Dates: August 1988 thru August 1991
Sites: USA & Canada
1,829 patients
 914 randomized to CABG
 915 randomized to PTCA

Inclusion Criteria:

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18 Years & Older
Coronary arteriogram showing one or more vessel amenable to revascularization ($\geq 50\%$ stenosis)
Objective documentation of ischemia or subjective documentation of typical angina with $\geq 70\%$ stenosis in at least one artery
Ability to perform all tasks related to glycemic control and risk factor management

Exclusion Criteria:

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Left main CAD $\geq 50\%$
Primary coronary spasm
Insufficient angina or objective evidence of ischemia
Unstable angina or acute MI requiring emergency revascularization
Extensive ascending aortic calcification
Coronary angiogram that is technically unsatisfactory
Concomitant major surgery required (Ex. aortic and/or mitral valve surgery or carotid endarterectomy)
Contraindication to CABG/PTCA because of coexisting clinical condition

Non-cardiac illness expected to limit survival
Pregnancy (known or suspected)
Geographically inaccessible or unable to return for follow-up
Enrolled in a competing randomized trial or clinical study
Unable to understand or cooperate with protocol requirements

Conclusions:

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- 1) No statistical difference in five year survival (primary end point) between patients undergoing CABG vs. PTCA with multivessel CAD
-CABG five year survival of 89.3% vs 86.3% in the PTCA group
($p = 0.19$, 95% CI -0.2 to 6.0%)
- 2) Subsequent revascularization was required more often with the PTCA group (54% vs. 8% for the CABG group - $p < 0.001$)
- 3) Among diabetic patients being treated with insulin or oral hypoglycemic agents, five year survival was significantly better after CABG
-CABG five year survival of 80.6% vs. 65.5% in the PTCA group
($p = 0.003$, 95% CI 1.4% to 28.9%)
- 4) No statistical difference in five year rates free of Q-wave MI (secondary end point)
- 5) Median hospital stay after CABG was 7 days vs. 3 days in the PTCA group

Criticisms / Discussion:

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- New interventional devices such as stents were not used so PTCA involved just balloon angioplasty, possibly why significantly more subsequent revascularization procedures were required in the PTCA group
- Limited generalization for secondary end point as non-Q-wave MI's were not included so total rates of MI were certainly underestimated