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Long-term Prognosis of Japanese Patients with Coronary Artery Disease: Comparison among Medical Treatment, PCI and CABG

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The objectives of treating coronary artery disease are to reduce angina, increase quality of life (QOL), and improve survival by preventing myocardial infarction and sudden death. Treatment of coronary artery disease in Japan has been criticized for varying too widely. Especially, patients with stenosis tend to automatically undergo percutaneous coronary intervention (PCI). Consideration is only given to the method of device based on the lesion morphology, i.e., a lesion-specific approach. No Japanese studies have evaluated PCI using survival as an endpoint. Whenever possible, treatment decisions should be based on scientific evidence and patient considerations rather than on the doctor's preferences. Therefore, we performed a retrospective analysis of the long-term prognosis of various treatments in Japanese patients with coronary artery disease, to provide a reference data in selecting the therapy for coronary artery disease appropriately. According to these results, the outcome of medical treatment was as good as that of PCI and CABG in patients with single-vessel disease or patients with double-vessel disease and preserved left ventricular function, while it was worse than that of CABG in patients with double-vessel disease and poor left ventricular function or in patients with triple-vessel disease. The indications for PCI have expanded because minimal invasiveness and a higher initial success rate, and a lower incidence of restenosis, but is there any rationale for expanded indications in relation to the long-term prognosis? In the appropriate selection of treatment for coronary artery disease, importance should be attached to the patient's QOL and economic considerations as well as the clinical efficacy and long-term prognosis.

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Comparison of Outcomes of Medical Therapy and PCI as Initial Treatment for Low-risk Stable Angina

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Stable angina is classified into two types: high-risk angina involving three-vessel disease, left main trunk lesions, or the proximal lesions of LAD, and low-risk angina involving one- or two-vessel disease. As initial treatment for low-risk angina, PCI is selected in many hospitals in Japan, whereas it is described in the ACC/AHA/ACP-ASIM guidelines that antianginal agents should be initially administered, and then PCI should be considered when medical therapy is not effective. To investigate which treatment is more advantageous, we retrospectively surveyed the long-term outcomes of medical therapy and PCI for low-risk angina. Of our series in which coronary angiography revealed coronary disease with significant stenosis, the subjects were 485 patients with low-risk angina (medical: 216, PCI: 269 patients). There were no significant differences in the patient characteristics; however, symptoms were significantly severer in the PCI group. With respect to the medical treatment course for 1 year, 90% or more of the patients received medical therapy alone, whereas additional PCI or CABG was required in 20% or more of the patients in the PCI group. One year after, there was no significant difference in symptoms between the two groups, and angina was improved to asymptomatic or mild in approximately 85% of the patients. In the medical group, no patient died of cardiac death or complications one year after, whereas 1.5% in the PCI group died of them; the mortality rate was lower in the medical group. In the future, we should establish the guidelines for low-risk angina based on the results of further follow-up survey and a prospective randomized JSAP study.

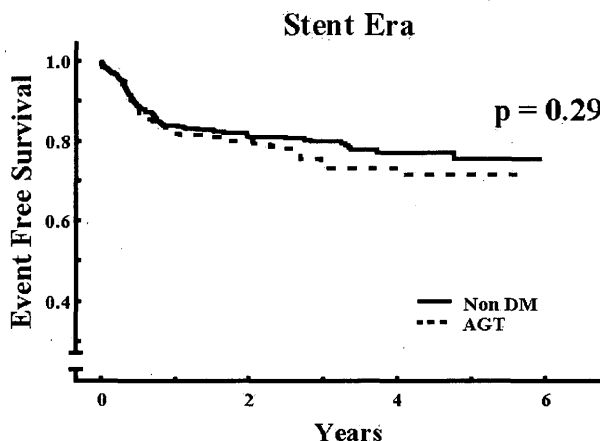
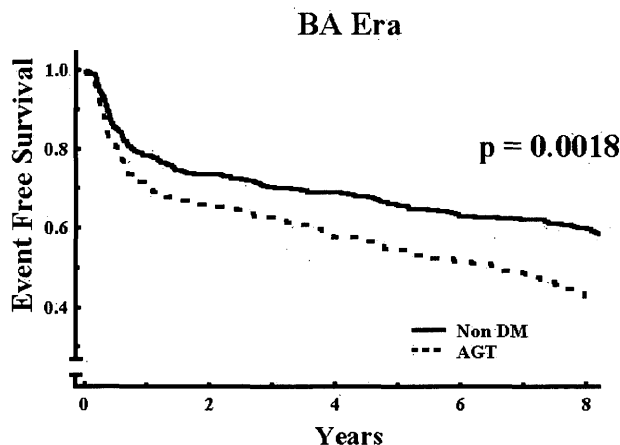
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Improvement of Long-term Outcome in Patients with Abnormal Glucose Tolerance Who Underwent Percutaneous Coronary Intervention in the Stent Era

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To clarify the long-term outcome in patients with abnormal glucose tolerance

(AGT=diabetes mellitus and impaired glucose tolerance) in the era of coronary artery stenting (Stent era, between 1995 and 1998, n=682), we analyzed data collected from patients who underwent successful first elective angioplasty. Although event-free survival was lower in patients with AGT than in patients without AGT in the balloon angioplasty era (BA era, between 1985 and 1990, n=584), the survival curve for patients with or without AGT was similar in the Stent era (Figure). According to the multivariate regression analysis, AGT is an independent risk factor of cardiac events in the BA era, but not in Stent era. Furthermore, patients with poor glycemic control (HbA1c>6.0%) at an index coronary angioplasty had higher cardiac events than those with good control in the BA era (p=0.0004), but not in the Stent era (p=0.72). Thus, coronary artery stenting may contribute to favorable outcomes in AGT patients.



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Temporal Trend of Treatment and Outcome of Acute Myocardial Infarction

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Purpose: This study was undertaken to assess how treatment and outcome of acute myocardial infarction (AMI) have changed since the introduction of reperfusion therapy. **Methods:** Between 1981 and 2002, 1984 patients with AMI underwent coronary angiography within 24 hours after symptom onset. Patients were divided into the 3 groups: group 1 (1981-1988, n=564), group 2 (1989-1995, n=678) and group 3 (1996-2002, n=742). Follow-up was achieved for 1964 patients (99%). **Results:** Thrombolysis was performed most frequently in group 1 (50%), conventional balloon angioplasty in group 2 (65%) and stenting in group 3 (74%). Achievement of final TIMI-3 flow improved (51%, 78% and 88%, respectively; p<0.001) and in-hospital mortality decreased in the chronological order (12%, 9% and 5%, respectively; p<0.001). 5-year survival was 76% in group 1, 78% in group 2 and 86% in group 3 (Figure). **Conclusion:** Stenting is now the most frequently chosen treatment for AMI and TIMI-3 flow is obtained in most of the cases, with the result that long-term survival has dramatically improved in the last two decades.