

STEMI患者において非責任病変への予防的PCIは有益である

PRAMI：STEMIにおいて非責任病変への予防的PCIも施行した方が責任病変のみのPCIよりも予後が良好である

PRAMI: Preventive PCI results in better outcomes than culprit artery PCI alone in STEMI

ST上昇を伴う心筋梗塞(STEMI)において非責任病変に対しても予防的に血管形成術を施行された患者は、責任病変の狭窄のみに限定して治療された患者よりも予後が良好であるとのスタディ結果が2013年European Society of Cardiology学会で発表され、同時に*New England Journal of Medicine*に掲載された。Preventive Angioplasty in Myocardial Infarction (PRAMI)トライアルは、計画されていた中間解析の結果、予防的PCIにおいて明らかな望ましい有益性が示されたため早期に中止された。患者は、急性ST上昇または左脚ブロック心筋梗塞で多枝冠動脈病変を有し緊急PCIを施行された患者を、予防的PCI(234人)または責任病変のみのPCI(231人)施行群に無作為に割り付けられた。平均追跡期間23か月の間に、予防的PCI群の21人および責任病変のみ群の53人が一次アウトカムイベント(心臓死、非致死性心筋梗塞または難治性狭心症)を発現し、予防的PCI群において患者100人当たり14人の絶対的リスク低下[ハザード比 0.35 (95% CI, 0.21~0.58)、 $P<0.001$]、および65%の相対リスク低下が認められた。合併症率は両群で同等であった。手術時間、被曝線量および造影剤使用量は予防的PCI群で多かった。

Full Text

Patients suffering a myocardial infarction with ST elevation (STEMI) who undergo a preventive procedure to unblock additional coronary arteries have significantly better outcomes than those whose treatment is confined to the culprit blockage only, according to the results of the Preventive Angioplasty in Myocardial Infarction (PRAMI) Trial. The findings, presented at the European Society of Cardiology 2013 Congress and published simultaneously in the *New England Journal of Medicine*, provide information that will help guide clinical practice and resolve uncertainty over how to approach percutaneous coronary intervention (PCI) for ST elevation myocardial infarction (MI).

"When a patient is admitted with an acute myocardial infarction, it is known that PCI to the blocked culprit artery is life-saving, but there is uncertainty as to whether doctors should undertake preventive PCI in vessels that are partially blocked but did not cause the myocardial infarction. This is a common clinical dilemma," said the study's lead investigator David Wald, M.D., from the Wolfson Institute of Preventive Medicine, Barts and The London School of Medicine, Queen Mary University of London and the London Chest Hospital.

The PRAMI trial was stopped early by the Data Monitoring Committee when a planned interim analysis showed a clear benefit in favor of preventive PCI that was evident within 6 months of the procedure and maintained thereafter.

"The results of this trial show that preventive PCI, in this situation, reduces the risk of cardiac death, a subsequent myocardial infarction or angina resistant to medical therapy, by about two-thirds." With this new evidence, "consideration can be given to revising current guidelines," he added.

Current guidelines recommend culprit-only PCI for patients with ST elevation myocardial infarction and multivessel disease, because until now there was a lack of evidence in favor of preventive PCI.

In the trial, patients undergoing emergency PCI for acute ST elevation (462) or left bundle branch block (3) myocardial infarction and multivessel coronary artery disease were randomized while in the catheterization laboratory to either preventive PCI (234), or culprit-only PCI (231).

Patients were eligible for the preventive procedure if their culprit artery had been treated successfully and they had a stenosis of 50% or more that was treatable by PCI in another or several other coronary arteries.

After a mean follow-up of 23 months (67% of patients had at least one year, and 46% at least 2 years, of follow-up) a total of 21 patients in the preventive PCI group and 53 in the culprit-only group had experienced a primary outcome event (cardiac death, nonfatal myocardial infarction or refractory angina) showing an absolute risk reduction of 14 per hundred patients in the preventive PCI group [hazard ratio 0.35 (95% CI 0.21-0.58), $P<0.001$], and a relative risk reduction of 65%.

The rate of complications was similar in the preventive and culprit-only PCI groups (procedure related stroke 2 vs. 0; bleeding requiring transfusion or surgery, 7 vs. 6; and contrast-induced nephropathy requiring dialysis, 1 vs. 3).

Procedure time, fluoroscopy dose and contrast volume were increased in the preventive PCI group (median 63 vs. 45 minutes, median 90.1 vs. 71.4 Gy cm^2 , and median 300 vs. 200 mL).

"The results show that on average, preventive PCI extends the procedure time by about 20 minutes, uses an extra 100mL of contrast and exposes the patient to an X-ray dose equivalent to an angiogram," said Dr. Wald, adding that "the initial costs of preventive PCI are higher but there will be reduced costs thereafter, with a reduced need for subsequent hospital admissions, cardiac investigations and revascularization procedures."

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