心筋梗塞後の一部の患者においてはタイミングが重要である（LBCT, abstract＃1313）

TIMACS：非ST上昇心筋梗塞患者においては早期の侵襲的治療は安全でありハイリスクの症例では予後が改善する可能性がある

TIMACS: Early invasive management is safe in patients presenting with non-ST-elevation myocardial infarction and may improve outcomes in high-risk cases

不安定狭心症または非ST上昇急性冠症候群（ACS）の患者に対する早期の侵襲的治療は安全であるが、死亡、新たな心筋梗塞、または脳卒中の全体的なリスクは遅れて施行した侵襲的治療と同等であると2008年American Heart Association学会で発表された。急性冠症候群におけるインターベンションのタイミング（TIMing of Intervention in Acute Coronary Syndrome ：TIMACS）スタディは、17ヵ国100の医療機関で治療を受けた患者3,031人を対象とした、不安定狭心症または非ST上昇ACS発症後できる限り早期（24時間以内）のインターベンションと36時間を超えた後のインターベンションを比較した前向き試験である。一次エンドポイント（6ヵ月以内の死亡、心筋梗塞再発、または脳卒中の複合）に関しては、早期インターベンションの方が好ましい傾向は認められたが有意なリスク軽減は見られなかった（p=0.15）。しかし、予後の最も不良な（GRACE score>140）非ST上昇心筋梗塞患者群においては、一次エンドポイントは遅延インターベンション群で21.6%に認められたのに対し早期インターベンション群では14.1%と相対リスクの35%の低下（p=0.05）が認められ、早期の冠動脈造影および治療による明らかな有益性がみられた。

Full Text

There is strong evidence that getting to the hospital quickly during a heart attack is critical, since early treatment saves both lives and heart muscle. And if the responsible coronary artery is completely blocked, it should be opened as soon as possible. What about patients with incomplete blockages, who have ACS or acute coronary syndrome? They should get to the hospital just as fast, but once there and on medical treatment, do they need to race to the cath lab? Not always, according to results from the TIMing of Intervention in Acute Coronary Syndrome (TIMACS) study presented as a late-breaking clinical trial at the American Heart Association's Scientific Sessions 2008.

The study of 3,031 patients treated at 100 medical centers in 17 countries was a prospective comparison of the relative usefulness, safety and cost effectiveness of early (within 24 hours) angiography, followed by revascularization if necessary, versus a delay of more than 36 hours after the onset of unstable angina or non-ST segment elevation myocardial infarction.

An early diagnostic angiogram reduced the relative risk of the composite endpoint of death, second heart attack or stroke by 35 percent in a high-risk subset of patients with a heart attack not demonstrating ST segment elevation on the EKG. But for many patients, the slower strategy appears to be just as good.

"If you are at low risk or intermediate risk for death with ACS, it doesn't matter whether you have your angiogram early or late, but if you are at high risk the early intervention strategy is far better," said Shamir R. Mehta, M.D., M.Sc., study author, director of interventional cardiology at Hamilton Health Sciences Corp. and associate professor of medicine at McMaster University, Hamilton, Canada

About two-thirds of the patients in the study were in the low or intermediate risk groups. The study of 3,031 patients treated at 100 medical centers in 17 countries was a prospective comparison of the relative usefulness, safety and cost effectiveness of intervention as soon as possible (and within 24 hours) versus a delay of more than 36 hours after unstable angina or non-ST segment elevation acute coronary syndrome (ACS).

For the primary endpoint, a composite of death, recurrent heart attack or stroke within six months, the researchers found no significant risk reduction (p value 0.15) in favor of early intervention. However, striking results emerged when the researchers compared patients based on their Grace Risk Score, a way of predicting the risk of dying within the next six months based on factors like age, other medical conditions, kidney function and a history of heart failure.

Among the 961 patients who measured >140 on the Grace Risk Score, the primary endpoint was seen in 21.6 percent of the late intervention group versus 14.1 percent of the high-risk patients, a 35 percent reduction in relative risk that was of high statistical significance (p value = 0.005), indicating a clear benefit for early coronary angiography and treatment, he said.

"This is by far, the largest study of ACS to study the ideal timing for intervention," he said, adding that an earlier trial on the issue was too small to provide a conclusive answer. "If the early strategy is better than delayed in the high risk patients then it might be appropriate to bypass small hospitals that lack invasive facilities and take those patients directly to an invasive center."

Co-authors are: The TIMACS study group. Individual author disclosures are available on the abstract.

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