

# An interventional strategy was better than a conservative strategy in unstable angina or non-ST-elevation MI

Fox KA, Poole-Wilson PA, Henderson RA, et al. **Interventional versus conservative treatment for patients with unstable angina or non-ST-elevation myocardial infarction: the British Heart Foundation RITA 3 randomised trial.** *Lancet.* 2002;360:743-51.

## QUESTION

In patients with unstable angina or non-ST-elevation myocardial infarction (MI), is an interventional strategy better than a conservative strategy?

## DESIGN

Randomized {allocation concealed\*}†, blinded {outcome assessors, data analysts, monitoring committee, and manuscript writers}†,\* controlled trial with median follow-up of 2 years (Randomized Intervention Trial of unstable Angina [RITA 3]).

## SETTING

45 hospitals in England and Scotland, UK.

## PATIENTS

1810 patients (mean age 62 y, 62% men) with suspected cardiac chest pain at rest and  $\geq 1$  of ischemia on electrocardiography, previous MI, or arteriographically proven coronary artery disease. Exclusion criteria included probable evolving MI, newly developed pathologic Q waves, and elevated creatine kinase levels. 97% of patients had  $\geq 1$  year of follow-up.

## INTERVENTION

Patients were allocated to a conservative ( $n = 915$ ) or an interventional ( $n = 895$ ) strategy. The conservative strategy included antianginal and antithrombotic medication, with the goal of controlling angina. The

interventional strategy included the same medications used in the conservative strategy plus early coronary arteriography and subsequent revascularization. In both groups, the antithrombin agent was enoxaparin, given 1 mg/kg of body weight twice daily subcutaneously for 2 to 8 days.

## MAIN OUTCOME MEASURES

Main outcomes were a combined rate of death, nonfatal MI, or refractory angina at 4 months, and a combined rate of death or nonfatal MI at 1 year.

## MAIN RESULTS

Analysis was by intention to treat. At 4 months, the interventional strategy reduced the combined rate of death, nonfatal MI, or refractory angina more than did the conservative strategy (Table). The interventional strategy reduced the rate of refractory angina more than did the conservative strategy at

both 4 months and 1 year (Table). The interventional and conservative strategies did not differ for the combined rate of death or nonfatal MI at 1 year (Table), or for death ( $P = 0.40$ ) or MI ( $P = 0.32$ ) at a median follow-up of 2 years.

## CONCLUSION

In patients with unstable angina or non-ST-elevation myocardial infarction (MI), an interventional strategy was better than a conservative strategy in reducing the risk for refractory angina with no increase in death or MI.

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\*See Glossary.

†Information provided by author.

## Interventional vs conservative strategy in unstable angina or non-ST-elevation myocardial infarction (MI)†

Outcomes	Interventional	Conservative	RRR (95% CI)	NNT (CI)
Death, MI, or refractory angina at 4 mo	10%	15%	34% (15 to 49)	20 (13 to 52)
Refractory angina at 4 mo	4%	9%	53% (32 to 67)	20 (14 to 38)
Refractory angina at 1 y	6%	12%	44% (24 to 59)	20 (13 to 40)
Death or MI at 1 y	7.6%	8.3%	9% (-25 to 33)	Not significant

‡Abbreviations defined in Glossary; RRR, NNT, and CI calculated from data in article.

## COMMENTARY

The RITA 3 trial provides convincing data that patients with non-ST-elevation acute coronary syndrome benefit from an early invasive strategy of coronary arteriography and revascularization during the index hospitalization. The results are complementary to the FRISC II study (1) and the TACTICS-TIMI-18 study (2). In the era of aspirin, glycoprotein IIb/IIIa receptor antagonists, unfractionated or low-molecular-weight heparin, thienopyridines, and coronary stents, these trials show that the benefits of an early invasive strategy for reducing recurrent MI, angina, and perhaps mortality at 6 to 24 months outweigh the risks for procedure-related events in non-ST-segment elevation acute coronary syndromes.

Which patients derive the greatest benefit? In the FRISC II and TACTICS-TIMI-18 (1, 2), patients with higher risk had the greatest benefit. This includes patients with troponin elevation at admission, ischemic electrocardiographic changes, diabetes mellitus, and previous MI; men; and persons aged  $> 65$  years. RITA 3 shows superiority of an early invasive strategy despite having enrolled a lower risk population, which excluded patients with evolving non-ST-elevation MI and  $> 50\%$  of the patients had single-vessel or no coronary disease at angiography. These 3 trials together enrolled patients who are broadly

representative of patients presenting with non-ST-elevation acute coronary syndromes. A caveat is that in women, benefit or harm from an early invasive strategy cannot be shown from the 3 trials.

The RITA 3 hypothesis that routine early angiography with myocardial revascularization is superior to a conservative strategy in non-ST-segment elevation acute coronary syndrome has been confirmed. The results are congruent with other large studies examining contemporary medical and revascularization therapies. Except for patients with characteristics that place them at particularly high risk for procedure-related complications, routine early angiography and myocardial revascularization should be used in patients with intermediate- and high-risk acute coronary syndrome.

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## References

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