

# **(COMMIT/CCS-2) Clopidogrel and Metoprolol in Myocardial Infarction Trial**

The main results were released at the annual conference of the American College of Cardiology in Orlando on Wednesday March 9, 2005 and are now available on this website.

Aspirin is effective in the emergency treatment of acute MI. Clopidogrel, which acts through a mechanism different from that of aspirin, has been shown to add to the benefits of aspirin in patients with unstable angina. Substantial uncertainty had existed about the value of adding clopidogrel to aspirin in acute MI (typically with ST-elevation). There is already compelling evidence about the benefits of long-term use of beta-blockers for patients after acute MI, but substantial uncertainty had remained about the value of early short-term  $\beta$ -blocker (i.v. then oral) immediately following emergency admission of acute MI, and the extent of its use is limited.

To help resolve these uncertainties, the COMMIT/CCS-2 was designed to be really large, and to involve a wide range of patients admitted to hospital with acute MI. Between Oct 1999 and Feb 2005, nearly 46,000 acute MI patients were recruited from 1250 collaborating hospitals throughout China. On top of aspirin and other current standard treatments, half of the patients were randomly allocated to receive 75 mg clopidogrel daily and half to receive dummy "placebo" tablets for 4 weeks or until prior discharge or death. In addition, within each of these two groups (using a "factorial" design), half were allocated to receive active beta-blocker (3 i.v. injections of metoprolol, 5 mg each, followed by 200 mg oral metoprolol daily) and half to receive matching placebo.

Of the patients recruited, 67% presented within 12 h of symptom onset, 72% were men, 26%  $\geq 70$  years old and 8% had a prior history of MI. Both drugs were well tolerated, with 93% and 89% of the patients completed their scheduled tablets for clopidogrel/placebo and metoprolol/placebo respectively. In hospital, 54% received fibrinolytic therapy (65%  $< 12$  h), 74% heparin, 68% ACE-inhibitors, 94% nitrates, 23% diuretics and 12% calcium antagonists. During the scheduled treatment period, there were over 3500 deaths (8%) and about 900 non-fatal re-MI or stroke (2%).

Consequently, the COMMIT/CCS-2 provides reliable evidence about the effects of adding clopidogrel to aspirin and of early beta-blocker on mortality and major vascular events in a wide range of patients who were routinely treated with many other therapies in hospital.