Do medications which reduce angina influence long-term mortality after a heart attack?

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Although medication which decreases the risk of angina attacks (chest pain caused by blockage of the arteries that supply the heart), are frequently prescribed in patients who have sustained a myocardial infarction, the possible influence of medication on long-term survival is not known, with the exception of beta-blocking agents, which have been shown to decrease mortality in clinical trials performed 30 years ago. Because antianginal drugs also protect the myocardium against ischemia (insufficient oxygen delivery to the heart muscle), there is a possibility that they may improve the prognosis of patients having suffered a heart attack. There are several classes of antianginal medications, which act through different mechanisms and therefore may have different effects on the clinical prognosis of patients.

The French registry of Acute ST-elevation and non-ST-elevation Myocardial Infarction (FAST-MI), is a nationwide survey of patients hospitalised for acute myocardial infarction in France over a one-month period, at the end of 2005. Patients included will be followed for a period of 10 years after the initial heart attack. At three years, fewer than 5% of the patients have been lost to follow-up.

Of a population of 3,670 patients included in the registry, 3,262 survived the initial hospitalisation and had a complete prescription at discharge. Among them, 1266 (39%) received antianginal agents other than beta-blockers. Calcium-channel blockers were prescribed to 16%

(dihydropyridines 10.5%, diltiazem 2% or verapamil 3%), nitrates to 19%, molsidomine to 3%, nicorandil to 9% and trimetazidine to 4.5% of patients. In addition, beta-blockers were prescribed to 77% of the patients. Patients who received antianginal agents were older and had more severe infarctions than those who did not receive such medications.

Three-year survival was 77% in patients treated with antianginal agents, compared with 86% in those who were not. After taking into account the initial profile of the patients and the severity of their heart attacks, prescription of antianginal medications was associated with a small (7%), non significant increase in the risk of dying in the 3 years following the heart attack.

When the different antianginal agents were analysed individually, none was associated with either a decreased or an increased risk of dying, except for molsidomine. Prescription of nitrates, the most ancient antianginal medication available, was associated with a trend to increased risk of death (+ 22%) which was not statistically significant; molsidomine was prescribed in a small number of patients (n=111) and was associated with a significant excess of deaths (+ 57%).

There was no evidence of any benefit or harm with respect to long-term mortality with most antianginal agents prescribed in patients having sustained a heart attack. The findings of possible increased hazard associated with use of nitrates, and more importantly of molsidomine, are intriguing and deserve further studies.

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