Cause of long-term mortality among diabetics undergoing percutaneous coronary intervention

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Aims

The study aimed to examine the long-term outcome of diabetics after percutaneous coronary intervention (PCI) from a single PCI registry.

Methods

We conducted a retrospective single-centre US study on subjects after their first PCI between 1991 and 2008. Deaths during long-term follow-up were ascertained via scheduled surveillance telephone calls of all patients. Causes of death were then determined by means of contact with next of kin and external providers, and through review of local and external medical records as well as death certificates. All information was independently reviewed by two physicians and disparities were resolved by consensus. Causes were categorised into cardiac, non-cardiac and unknown. Final date of follow-up was set for 31 December 2012. Diabetes status of each patient was identified and cohort was divided into three PCI eras (1991–96, 1997–2002, 2003–08). This corresponded approximately with the dominant intervention used in each era: balloon angioplasty (early provisional stenting), bare-metal stent and drug-eluting stent placement.

Results

Of 19,077 patients who survived index PCI hospitalisation, 4,417 had diabetes (23%), of whom 2,165 (49%) subsequently died. Cause of death was established in 98.8%. The rate of 5-year all-cause mortality declined across three time periods (incidence 29%, 24%, 23%). This decline was driven by a significant reduction in cardiac mortality (incidence 18.5%, 12.9%, 11.0%), in part counterbalanced by an increase in rate of non-cardiac death (incidence 11.1%, 11.8%, 13.7%). Cardiac mortality also declined in subsets with single-vessel disease (11.6%, 8.53%, 7.81%) as well as multivessel disease (20.8%, 14.6%, 12.6%), whereas non-cardiac mortality did not (incidence 12.7%, 9.48%, 12.5%; and 10.5%, 12.6%, 14.3%).

Conclusions

This study showed a shift from primarily cardiac to non-cardiac cause of long-term mortality in diabetics after PCI. These findings have important implications for the clinical care of these patients who are at high risk of mortality. ■

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