

# Respiratory infection associated with increased death after acute myocardial infarction

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Respiratory infection is associated with a four-fold increased risk of in-hospital cardiovascular mortality after acute myocardial infarction (AMI), according to research presented at ESC Congress today by Dr Catarina Quina-Rodrigues, a cardiologist at Hospital de Braga in Portugal. The findings highlight the importance of diagnostic alertness for respiratory infections in AMI patients so that therapeutic measures can be promptly taken.

"Cardiovascular disease remains the leading cause of death in Europe and around the world," said Dr Quina-Rodrigues. "Due to important advances in primary prevention, patients admitted with MI are frequently older and often have a higher comorbidity load. Interestingly, there is a significant overlap between risk factor profiles for the development of AMI and [respiratory infection](#) (RI), namely older age, diabetes and smoking, therefore increasing the susceptibility of this population to infectious complications."

Epidemiological data suggests that RI can trigger the development of adverse cardiac events, namely AMI. This could be due to increased cardiac workload and the release of proinflammatory mediators that promote endothelial dysfunction and hasten atherosclerotic plaque instability and rupture. Evidence from human and animal studies supports the reverse association, with a higher susceptibility to [bacterial infection](#) after AMI or during an [acute heart failure](#) episode.

The current study aimed to evaluate the impact of the development of respiratory infection on in-hospital cardiovascular mortality in patients admitted for AMI. The researchers retrospectively analysed data from 1 907 patients admitted with AMI over a four year period. Respiratory infection was diagnosed based on chest X-ray, and clinical and analytical data. Clinical and laboratory features, treatment and adverse events were compared in patients with and without RI.

During the study period, 117 patients developed RI (6%). RI development was associated with older age, higher diabetes prevalence and a more severe clinical presentation. The [development](#) of RI was associated with a worse disease course, longer length of stay, higher Killip Class,<sup>3</sup> and higher incidence of malignant arrhythmias, ischaemic stroke and reinfarction along with more frequent need for transfusional, circulatory and respiratory support.

The researchers found that patients with RI had a 6.12 times higher in-hospital cardiovascular mortality than those without RI (95% confidence interval [CI]=3.34-11.21, p

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