

## **Impact of COPD on long-term outcome after ST-segment elevation myocardial infarction receiving primary percutaneous coronary intervention**

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### **BACKGROUND**

There are limited data describing the long-term outcome of patients with concomitant COPD who develop ST-segment elevation myocardial infarction (STEMI).

### **METHODS**

A total of 11,118 consecutive patients with STEMI enrolled in the web-based Registro Regionale Angioplastiche Emilia-Romagna (REAL) registry were followed-up and stratified according to COPD presence or not. At 3-year follow-up, mortality and hospital readmissions due to myocardial infarction (MI), heart failure (HF), coronary revascularization (CR), serious bleeding, and COPD were assessed.

### **RESULTS**

According to our criteria, 2,032 patients (18.2%) had a diagnosis of COPD. Overall, 1,829 patients (16.5%) died. COPD was an independent predictor of mortality (hazard ratio [HR], 1.4; 95% CI, 1.2-1.6). Hospital readmissions for recurrent MI (10% vs 6.9%,  $P < .01$ ), CR (22% vs 19%,  $P < .01$ ), HF (10% vs 6.9%,  $P < .01$ ), and SB (10% vs 6%,  $P < .01$ ) were significantly more frequent in patients with COPD as compared with those without. Also, hospital readmissions for COPD were more frequent in patients with a previous history of COPD as compared with those without (19% vs 3%;  $P < .01$ , respectively). Patients with a hospital readmission for COPD showed a fourfold increased risk of death (HR, 4.2; 95% CI, 3.4-5.2). Finally, hospital readmissions for COPD emerged as a strong independent risk factor for recurrence of MI (HR, 2.1; 95% CI, 1.4-3.3), HF (HR, 5.8; 95% CI, 4.6-7.5), and SB (HR, 3; 95% CI, 2.1-4.4).

### **CONCLUSIONS**

Patients with STEMI and concomitant COPD are at greater risk for death and hospital readmissions due to cardiovascular causes (eg, recurrent MI, HF, bleedings) than patients without COPD.