

# Effect of complete heart block on in-hospital mortality in a Hispanic population presenting with acute myocardial infarction

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## Abstract

**Introduction/Objective:** Complete heart block (CHB) is an important clinical complication in patients hospitalized with acute myocardial infarction (AMI). Yet, limited information is available on the relationship between the two in the Hispanic population. We want to determine whether a difference exists between in-hospital mortality of patients with and without CHB presenting with AMI in Puerto Rico. **Methods:** A secondary data analysis was conducted from the Puerto Rican Cardiovascular Surveillance Study in 2007, 2009, and 2011, a non-concurrent prospective study. Our main independent variable was patients with and without CHB and our dependent variable was in-hospital mortality. SPSS V. 20 software was used for data analysis. The in-hospital mortality was examined by using chi-square or Fisher's Exact test for discrete variables and independent t-tests for continuous variables. Age, gender, and diabetes were included as potential confounders in a multivariate analyses using logistic regression. **Results:** The overall incidence of CHB was low (n=23). Our unadjusted model showed that patients with CHB were 4 times more likely to die compared to those without (OR: 4.1, 95%CI: 1.5-11.1; p=0.014). For every 1-year increase in age, there was a 10% increase on in-hospital mortality risk (OR: 1.1, 95%CI: 1.05-1.07; p<0.001). Women were 50% more likely to die than males (OR: 1.5, 95%CI: 1.2-2.0; p=0.003). In the adjusted model, CHB and age were the only variables significantly associated with mortality. The association between CHB and mortality remained strong (OR: 4.7, 95%CI: 1.7-13.5; p=0.003). No collinearity was detected among any of the explanatory variables. **Conclusions:** CHB increases the risk of in-hospital mortality after AMI by roughly five times after adjusting for age, gender, and diabetes. As age of the patient increased, so did the mortality. As a result of our study, clinicians may become more aware of the mortality risks associated with a minority population and could tailor their surveillance and treatment plan accordingly.

**Keywords:** complete heart block; acute myocardial infarction; Hispanic

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