

# Association between Influenza-like illness and acute myocardial infarction patients: A case-control study

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## Abstract

**Background:** Acute myocardial infarction (AMI) is the leading cause of death worldwide. Seasonal Influenza can lead to cardiovascular complications. Thus, the association between Influenza and cardiovascular events has been of interest recently. **Hypothesis:** Therefore, this study aimed to investigate recent influenza-like illnesses (ILI) in acute myocardial infarction (AMI) patients compared to other hospitalized patients as the control group during the cold season in the north of Iran. **Methods:** This retrospective case-control study included 300 patients (150 AMI patients and 150 controls) aged [?] 50 years hospitalized for acute myocardial infarction (AMI) or other conditions between September 22, 2019, and March 15, 2020. Patients in each group were frequency-matched for gender and age range. The primary exposure was a recent ILI (fever [?] 37.8°C, cough, and sore throat) in the past month. **Results:** The patients' mean age was  $64.42 \pm 9.47$  years, with a range of 50-94 years. Overall, forty-five (15%) patients of 300 participants had diseases that met the ILI criteria. The AMI group patients significantly reported more ILI than controls (adjusted OR: 3.04, 95% CI: 1.02 to 9.09,  $p < 0.001$ ). On the other hand, patients who received the influenza vaccine were significantly less likely to have an acute myocardial infarction than those who did not receive the vaccine (adjusted OR: 0.02, 95% CI: 0.001 to 0.38,  $p = 0.006$ ). **Conclusion:** In conclusion, the present study demonstrates that ILI can increase the risk of AMI. Also, it was confirmed that Influenza vaccination could reduce the risk of AMI.

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