

Bad weather – an important protective factor for myocardial infarction in Switzerland.

An analysis from 5553 patients from the AMIS registry 1999-2002

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Background:

The influence of weather on headache, rheumatism, and exacerbation of pulmonary disease is well-known. Less information is available about the role of weather in the triggering of acute coronary disease. This study aims at elucidating the weather factor using the largest *acute myocardial infarction* registry in *Switzerland – AMIS*.

Methods:

5553 patients experiencing an AMI in 1999 to 2002 were analyzed. Weather analysis was done threefold: A) weather was classified according to the Perret system, an overall weather classification scheme ('Wetterlage') recorded by SwissMeteo; B) weather was classified according to a large range of individually measured parameters, like barometric pressures, temperature, rainfall etc.; C) weather was classified according to the Brezowski scheme that had been developed in the context in accident prediction.

Results:

Weather had a significant impact on admission rates for myocardial infarction.

A) weather classification: In an global analysis, a weather situation dominated by a high-pressure zone in the west or in the nord or an anticyclonal situation led to an increase by about 7% in infarction rates compared to a weather dominated by a low pressure zone or a cyclonal situation. The so-called "Westlage" was associated with a significant increase of about 50% of events compared to the most benign weather class, a low pressure system ("Tiefdruckrinne"); A change from a high to a low pressure situation led to a decrease in events of about 12% in the 2 days following the change.

These findings were confirmed in analysis B), where low barometric pressure, a fall in temperatures and rainfall (in particular when strong and prolonged) were associated with a decrease in the incidence of infarctions. The lowest incidence of AMI was observed during 2-3 days of heavy rain. The Brezowski score was of limited value for myocardial infarction.

Conclusion:

Weather is a significant factor for the development of acute myocardial infarction. While bad for the mood, rainy days may be good for the heart. Eating mediterranean food and drinking wine while remaining in Switzerland during sommer vacations may represent an innovative approach to cost-efficient prevention of myocardial infarction.