

# Effects of solar activity on myocardial infarction deaths in low geomagnetic latitude regions

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## **Abstract**

We study the effect of solar activity on the incidence of myocardial infarction deaths (MID) in Mexico. We work with 129,917 cases along 1996-1999, grouping the data by sex and age, and considering the solar cycle phases. At higher frequencies the circaseptan is the most persistent periodicity in MID occurrence. During solar minimum the circaseptan period is not detectable compared with solar maximum. During Forbush decreases and geomagnetic activity, most cases present a higher average MID occurrence. Furthermore the MID rate is higher as the level of the geomagnetic perturbation increases. Male MID rates are in general higher than female rates and the difference increases as the geomagnetic perturbation increases. The age group with the lowest MID incidence is 25 to 44 years, the age group of 65 years is the most vulnerable. We conclude that solar activity does affect MID at low geomagnetic latitudes and that the solar maximum is the most hazardous time for MID incidence.