

Daylight saving time and acute myocardial infarction: a meta-analysis

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Background:

The current evidence on the effects of daylight saving time (DST) transitions on major cardiovascular diseases is limited, and available results are conflicting. We carried out the first meta-analysis aimed at evaluating the risk of acute myocardial infarction (AMI) following DST transitions.

Methods:

We searched MedLine and Scopus up to December 31, 2018, with no language restriction, to retrieve cohort or case-control studies evaluating AMI incidence among adults (≥ 18 y) in the week following spring and/or autumn DST shifts versus control periods. A summary relative risk of AMI was computed after: (1) spring, (2) autumn, (3) both transitions considered together versus control weeks. Stratified analyses were performed by gender and age. Data were combined using a generic inverse-variance approach.

Results:

Seven studies (>115,000 subjects) were included in the analyses. A significantly higher risk of AMI (Odds Ratio: 1.03; 95% CI: 1.01-1.06) was observed in the two weeks following spring or winter DST transitions. The risk increase

was however significant only after the spring shift (OR: 1.05; 1.02-1.07), while AMI incidence in the week after winter DST transition was comparable to control periods (OR 1.01; 0.98-1.04). No substantial differences by age or gender emerged.

Conclusions:

The risk of AMI increases modestly but significantly following DST transitions, supporting the proposal of DST shifts discontinuation. Additional studies fully adjusting for potential confounders are required to confirm the present findings.

Key messages:

- The risk of acute myocardial infarction increases modestly but significantly following DST transitions.
- Although preliminary, our findings support the proposal of DST shifts discontinuation.