Title: Increased Atrial Fibrillation Admissions Following Daylight Saving Time Spring Transition

Authors: JJ Chudow, L Zaremski, AY Mazori, JD Fisher, L Di Biase, SG Kim, J Romero, JN Gross, KJ Ferrick and A Krumerman. Montefiore Medical Center

Introduction: Daylight saving time (DST) imposes a twice yearly hour shift and is used in over 70 countries. These transitions are associated with decreased sleep quality and increased traffic accidents. Negative health effects include increased incidence of acute myocardial infarction following the DST spring transition and increased ischemic stroke hospitalizations following both transitions.

Hypothesis: DST transitions are associated with differences in atrial fibrillation (AF) admissions.

Methods: Data for AF admissions between 2009 and 2016 was reviewed. Admitted patients aged 18 to 100 with primary ICD9 code of AF were included. Number of admissions were compiled and compared by date and weekday in the week following each DST transition and yearly average. Significance was determined with Wilcoxon nonparametric tests.

Results: We included 6296 AF admissions. Mean age was 68 years; 52.9% were female. A significant increase in the mean AF admissions over the Monday to Thursday period following the DST start (spring transition) compared to the yearly mean of the same period was found (3.13 admissions/day compared to 2.56 admissions/day; P value = 0.025). No significant difference was found for the same Monday to Thursday period following DST end (autumn transition).

Conclusions: There is a significant increase in admissions for AF in the days following DST start but not DST end among our population. These findings reveal a correlation between DST transitions and AF incidence and add to evidence of negative health consequences of DST transitions. Potential mechanisms driving an increase in AF admissions may be linked to those noted in patients with sleep disordered breathing.

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