

## Efficacy of theophylline in patients with syncope without prodromes with normal heart and normal ECG

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**Aim.** Patients affected by syncope without or with very short ( $\leq 5$  s) prodrome with normal heart and normal ECG have been shown to present with low plasma adenosine levels. We investigated whether chronic treatment of these patients with theophylline, a non-selective adenosine receptor antagonist, results in clinical benefit.

**Methods and Results.** In a consecutive case series of 16 patients (mean age  $47 \pm 25$  years, 9 females), who had had ECG documentation of syncope with asystolic pause/s, we compared the incidence of syncopal recurrence during a period without and a period with tailored theophylline therapy. During the median 60 months before ECG documentation of the index episode, the patients had had a median of 2 syncopes per year (IQR 0.8; 3). During the 6 months of the study phase without therapy, the patients had a median of 2.6 syncopes per year (IQR 1.8; 10.2),  $p=0.63$ . During the 23 months of the study phase with theophylline, the patients had a median of 0.4 syncopes per year (IQR 0.0; 1.1),  $p=0.005$  vs history and  $p=0.005$  vs no therapy. In the 13 patients who had an implantable loop recorder during both study phases, the incidence of asystolic episodes  $>3$  s decreased from 9.6 per year (IQR 2; 16) to 1.1 per year (IQR 0.0; 1.7),  $p=0.0007$ . During theophylline treatment, syncope recurred in 1/5 (20%) patients who had an idiopathic AV block as index event versus 9/11 (81%) of patients who had a sinus arrest,  $p=0.005$

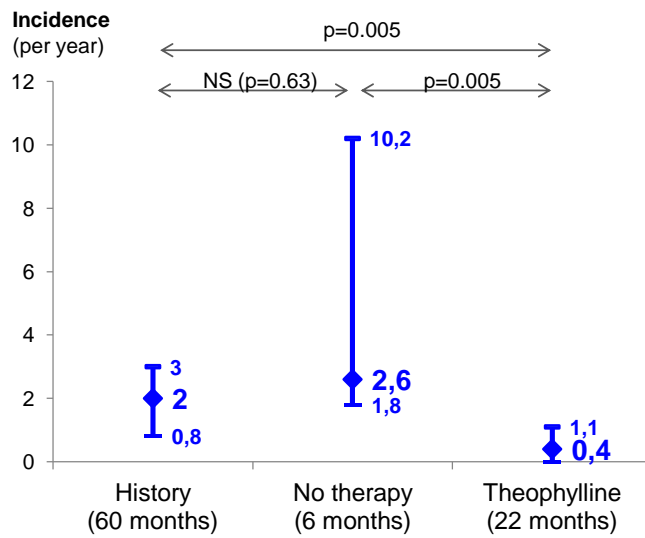
**Conclusion.** Theophylline is effective in reducing syncope burden in patients with syncope without prodromes with normal heart and normal ECG. The efficacy is greater in those with idiopathic AV block.

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### Syncope



### Asystole >3 s

