

MEETING ABSTRACT

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# EHMTI-0033. The phosphodiesterase 3 inhibitor cilostazol induces migraine-like attacks via cAMP increase

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## Introduction

The initiating mechanisms of migraine attacks are very complex but may involve the cyclic adenosine 3',5'-monophosphate (cAMP) signaling pathway. It is unknown whether intracellular cAMP accumulation induces migraine attacks.

## Aim

To investigate whether administration of cilostazol, which causes cAMP accumulation, may induce migraine attacks.

## Methods

We included 14 migraine patients without aura in a double-blinded, placebo-controlled crossover study. All participants received oral cilostazol or placebo on two separate days. We recorded migraine headache characteristics and associated symptoms using a questionnaire.

## Results

Cilostazol induced delayed migraine-like attacks in 12 patients (out of 14) compared to 2 (out of 14) patients after placebo ( $P=0.002$ ). The median time to onset for migraine-like attacks was 6 h (range 3-11 h). Patients reported that the attacks mimicked their usual migraine attacks and that cilostazol induced attacks responded to their usual migraine treatment. The median time of medication intake was 6 h (range 4-11).

## Conclusions

The present study suggests that intracellular cAMP accumulation plays a crucial role in migraine induction. This knowledge is a further step in our understanding of the intracellular pathway of migraine initiation.

No conflict of interest.

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