

# LETTER TO THE EDITOR

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## Buccal caffeine for the routine reversal of Persantine

### To the Editor,

Lack of a reliable supply of intravenous Aminophylline for reversal of Persantine following pharmacologic MPI necessitated a search for an alternative.

Caffeine, Theophylline, and Aminophylline are all Xanthine derivatives, acting as nonselective adenosine receptor antagonists thereby inhibiting Adenosine.<sup>1</sup> Caffeine is structurally similar to Theophylline, (Caffeine =  $C_8H_{10}N_4O_2$ , Theophylline =  $C_7H_8N_4O_2$ ).

Buccal caffeine 40 mg is available as an over the counter preparation called Synergy<sup>TM</sup>.<sup>2</sup> The controversy about Caffeine's efficacy relates to delayed absorption and effective blood levels.<sup>3</sup> We report our experience with buccal Caffeine.

Nine hundred and fifty-four consecutive patients undergoing Persantine MPI were studied. Patients gave signed informed consent. Two minutes after the Sestamibi dose Synergy<sup>TM</sup> containing 40 mg of Caffeine was administered via the buccal route.

There were 534 males and 420 females (mean age of  $66.8 \pm 10.9$  years). Fifty-five symptomatic patients, with ischemic ECG changes and/or hypotension required Aminophylline (5.8%). One hundred and seven symptomatic patients with ischemic ECG changes and/or hypotension did not require Aminophylline (11.2%). Sixty-nine asymptomatic patients with ischemic ECG changes and/or hypotension did not require Aminophylline (7.2%). Using these figures, a very selective utilization of Aminophylline could have been a reduced from 24.2% to 5.8%. Our use of Aminophylline was reduced from routine (100%) to 5.8%.

Buccal Caffeine 40 mg is an alternative method of reversing Persantine. Intravenous Aminophylline must be available for those patients who fail to respond. Any other Caffeine preparation (coffee, tea, chocolate, energy drinks, and caffeine tablets) would have delayed absorption and therefore less likely to be effective. Lexiscan (Regadenoson) is only available through a "special access" program in Canada. Buccal Caffeine should also reverse the adverse effects of Lexiscan.

We use buccal Caffeine routinely after Persantine MPI and reserve intravenous Aminophylline for the caffeine non-responders. We are currently investigating an 80 mg dose of buccal Caffeine to see if we can further reduce the percentage of non-responders.

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