EFFECT OF CAFFEINE INGESTION ON EXHALED NITRIC OXIDE MEASUREMENTS IN HEALTHY SUBJECTS

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Introduction

Exhaled nitric oxide (eNO) is a marker for eosinophilic airway inflammation and may help to guide asthma management. Caffeine consumption has been associated with changes in eNO concentrations in healthy subjects, with divergent results. The aim of our study was to determine the effect of caffeine consumption on eNO.

Materials and methods

Twenty eight healthy subjects, (20-52 years) were included. eNO and lung function were measured before and after caffeine (170 mg) consumption at different times: before (t0), directly after (t1), 30min (t2), 60min (t3) and 120min (t4) after ingestion. eNO was measured with at flow rates of 50mL/s (eNO50) and 300mL/s (eNO300).

Results

Heart rate (t0: 69.7±8.6min^{-1}) increased to 73.8±11.8min^{-1} (t1) and decreased to 69.7±12.5 min^{-1} (t4). FEV_1 was 3.9±0.9 L (t0) and not sig. different ($p>0.05$) at t1 or t4 (3.9±0.5 L, 4.0±1.1 L). eNO50 and eNO300 concentration showed no significant changes ($p>0.05$): eNO50: t0: 15.2±8.9ppb, t1: 13.3±8.9ppb, t4: 14.5±9.9ppb; eNO300: t0: 4.4±2.5ppb, t1: 3.6±2.0ppb, t4: 3.9±2.6ppb.

Discussion

After consumption of 170mg caffeine no significant effect on eNO or lung function during 2 hours were observed in healthy subjects. We conclude that caffeinated drinks are unlikely to acutely influence eNO in healthy subjects.