Mesa 3

[ERS] Corticosteroid responsiveness in COPD

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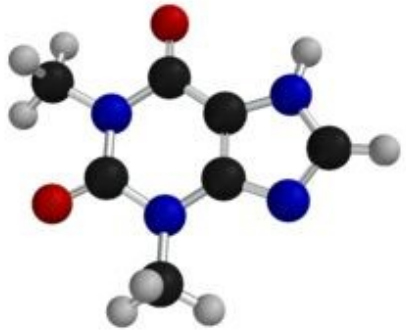
Introduction

The mechanism of bronchodilator nonresponsiveness to corticosteroids in COPD is unclear; the levels of histone deacytylase (HDAC) and oxidative stress have been implicated[1]

Phosphodiesterase (PDE4) inhibition of glucocorticoid resistance in human alveolar macrophages has also been shown to reverse corticosteroid resistance[2]

1.New Engl J Med, 2005;352:1967 2.ClinExp Allergy. 2011;41:535



AIMS

We studied the effects of theophylline which is believed to increase HDAC levels, as well as roflumilast, a PDE inhibitor, on steroid responsiveness in COPD.

Methods

N=8 COPD

Spirometrically documented nonresponsiveness to bronchodilators

Oral Theophylline

1ª SEMANA

SPIROMETRY
+
40 mg Predinosne VO
SPIROMETRY

Oral Roflumilast 500 µg

2ª SEMANA

SPIROMETRY
+
40 mg Predinosne VO
SPIROMETRY

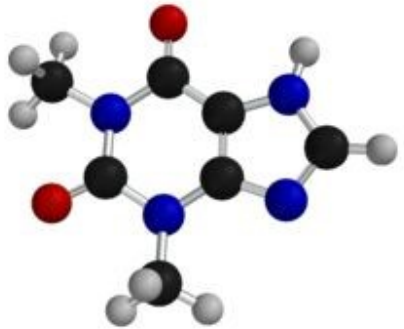
Results

- HDAC2 activity in circulating mononuclear WBCs did not change significantly from baseline at weeks 1 and 2

- Similarly there were no differences in baseline spirometric values at baseline, week 1 and week 2.

Baseline		Week 1				Week 2		
BD	PRE	POST	p	PRE	POST	p	PRE	POST
FVC L	2.72	2.86	ns	2.72	2.80	NS	2.81	2.98
FEV_1 L	1.18	1.33	<0.03	1.18	1.24	NS	1.18	1.30

Conclusions



- ✓ These results indicate that neither theophylline nor roflumilast treatment alters HDAC2 levels.
- ✓ Furthermore, this treatment does not alter bronchodilator responsiveness to steroids in COPD.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