Title: Comparison of Anti-Inflammatory Effects of Theophylline and Resveratrol in Chronic Bronchitic Rats

Author(s): Sahin M (Sahin, Murat); Yıldız F (Yıldız, Fusun); Sirvancı S (Sirvancı, Serap); Erçan F (Erçan, Feriha); Sahin D (Sahin, Deniz); Boyaci H (Boyaci, Hasan); Başygıt I (Başygıt, İknur); Ilgazlı A (Ilgazlı, Ahmet)

Source: TURKIYE KLINIKLERİ TIP BİLİMLERİ DERGİSİ Volume: 31 Issue: 3 Pages: 559-567 DOI: 10.5336/medsci.2009-16060 Published: JUN 2011

Abstract: Objective: The aim of this study was to compare the anti-inflammatory effects of resveratrol and theophylline in rats with chronic bronchitis exposed to passive cigarette smoke. Material and Methods: Thirty-five Wistar-Albino rats were enrolled into five groups. After exposure to passive cigarette smoke for 20 weeks, the rats in the first four groups were treated with intraperitoneal administration of resveratrol solved in dimethylsulfoxide (DMSO), DMSO, theophylline solved in physiologic saline (PS) or PS for 21 days. The rats in the fifth group were healthy controls. At the end of the experiment, blood samples were obtained to measure serum tumor necrosis factor alpha (TNF-alpha) levels and lung samples were obtained for light and electron microscopic examination. Results: Serum TNF-alpha level was lower in rats treated with resveratrol and theophylline compared to control rats (p<0.05). Smoke induced lung injury decreased with resveratrol and theophylline administrations compared to carrier administrations (p<0.05). Neither serum TNF-alpha nor lung histopathology scores of rats treated with resveratrol and theophylline were different (p>0.05). Conclusion: Resveratrol and theophylline were found to have similar effects on histopathological findings and cytokine expression, therefore could be considered for treatment of chronic obstructive pulmonary disease. However, comprehensive long-term clinical studies are needed.

Accession Number: WOS:000293108900008

Language: English

Document Type: Article

Author Keywords: Pulmonary disease, chronic obstructive; resveratrol; theophylline; tumor necrosis factor alpha (36-68)

KeyWords Plus: OBSTRUCTIVE PULMONARY-DISEASE; NF-KAPPA-B; CIGARETTE-SMOKE; AIRWAY INFLAMMATION; LUNG INJURY; RED WINE; COPD; THEOPHYLLINE; MACROPHAGES; CYTOKINE

Addresses: [Sahin, Murat; Yıldız, Fusun; Boyaci, Hasan; Başygıt, İknur; Ilgazlı, Ahmet] Kocaeli Univ, Fac Med, Dept Chest Dis, Kocaeli, Turkey.
Reprint Address: Başygıt, I (reprint author), Kocaeli Univ, Fac Med, Dept Chest Dis, Kocaeli, Turkey.

E-mail Address: ilknur.basyigit@gmail.com

Publisher: ORTADOGU AD PRES & PUBL CO

Publisher Address: TURKOCAGI CAD NO 30, BALGAT, ANKARA, 06520, TURKEY

Web of Science Categories: Medicine, General & Internal

Research Areas: General & Internal Medicine

IDS Number: 797FC

ISSN: 1300-0292

29-char Source Abbrev.: TURK KLIN TIP BILIM


Source Item Page Count: 9