Research Article (Dette er en oppsummering, hele artikkelen er refert over).

Effect of Agaricus blazei Murill on the Pulmonary Tissue of Animals with Streptozotocin-Induced Diabetes

Fábio Cangeri Di Naso,1 Rodrigo Noronha de Mello,2 Sílvia Bona,1 Alexandre Simões Dias,1, 3 Marilene Porawski,1, 4 Alexandre de Barros Falcão Ferraz,2 Marc François Richter,5 and Norma Possa Marroni1, 2

1 Laboratory of Experimental Hepatology and Physiology, Porto Alegre Clinical Hospital, Federal University of Rio Grande do Sul, 90035-903 Porto Alegre, RS, Brazil
2 Universidade Luterana do Brasil, 92425-900 Canoas, RS, Brazil
3 Centro Universitário Metodista IPA, 90240-111 Porto Alegre, RS, Brazil
4 Universidade Federal de Ciências da Saúde de Porto Alegre, 90050-170 Porto Alegre, RS, Brazil
5 Universidade Estadual do Rio Grande do Sul, 90010-191 Porto Alegre, RS, Brazil

Received 30 October 2009; Revised 7 January 2010; Accepted 4 March 2010

Academic Editor: Subrata K. Chakrabarti

Copyright © 2010 Fábio Cangeri Di Naso et al. This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

The present study was designed to evaluate the oxidative stress as well as the therapeutic effect of Agaricus blazei Muril (A. Blazei) in rats with streptozotocin-induced diabetes. We used 25 Wistar rats, and DM was induced by injecting streptozotocin (70mg/Kg i.p.). Agaricus blazei Muril was administered daily starting 40 days after disease onset. A. Blazei was tested as an aqueous extract for its phytochemical composition, and its antioxidant activity in vitro was also evaluated. Lipoperoxidation (LPO), and superoxide dismutase (SOD), catalase, and glutathione peroxidase activities were measured in the pulmonary tissue, as well as the presence of inducible nitric oxide synthase (iNOS), through immunohistochemistry. An anatomopathologic study was also performed. Phytochemical screening of A. Blazei detected the presence of alkaloids and saponins. The extract exhibited a significant antioxidant activity in the DPPH-scavenging and the xanthine/oxidase assays. Pulmonary LPO increased in diabetic animals (0.43 ± 0.09; \( P < .001 \)) as compared to the control group (0.18 ± 0.02), followed by a reduction in the A. Blazei-treated group (0.33 ± 0.04; \( P < .05 \)). iNOS was found increased in the lung in diabetic rats and reduced in the A. Blazei-treated group. The pulmonary tissue in diabetic rats showed oxidative alterations related to the streptozotocin treatment. The A. Blazei treatment effectively reduced the oxidative stress and contributed to tissue recovery.