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The protective effect of Nigella sativa on lung injury of sulfur mustard-exposed guinea pigs

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View references (٣٩)

Abstract

The lung is one of the most exposable organs to chemical warfare agents such as sulfur mustard (SM) gas. Airway hyperresponsiveness and lung inflammation are reported in chemical warfare victims. There is no definite treatment for respiratory disorders induced by SM exposure. However, the protective effect of Nigella sativa on inflammatory process was shown. In the present study, the protective effect of Nigella sativa on tracheal responsiveness and lung inflammation of SM exposed guinea pigs was examined. Guinea pigs were exposed to diluent's solution (ethanol, control group), ١٠٠ mg/m٣ inhaled sulfur mustard (SME group), and SME treated with Nigella sativa, ٠,٠٨ g daily (SME+N), n = ٦ for each group. Tracheal responsiveness (TR) to methacholine, total white blood cell (WBC) count of lung lavage, and differential WBC were done ١٤ days post exposure. The weigh of animal were measured at the beginning, middle (day ٧), and the end (day ١٤) of the study. The TR of SM-exposed guinea pigs was significantly (P <.٠٠١) and WBC nonsignificantly higher than those of controls. In SME guinea pigs, there was a weight loss but in the case of SME+N guinea pigs, no obvious weight change thought the study was seen. The eosinophl, monocyte, and lympocytes in SME animals were significantly changed compared to control group (P <.٠٠١ for all cases). Monocyte, lymphocyte, and neutrophil number were decreased in SME+N group compared to SME animals, which was significant only for neutrophil (P <.٠٥). These results showed a preventive effect of Nigella sativa on TR of SM-exposed guinea pigs. Copyright © Informa Healthcare USA, Inc.

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Author keywords

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Indexed Keywords

EMTREE drug terms: alcohol; methacholine; mustard gas; Nigella sativa extract

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MeSH: Animals; Bronchoalveolar Lavage Fluid; Chemical Warfare Agents; Female; Guinea Pigs; Leukocytes; Lung; Lung Diseases; Male; Methacholine Chloride; Mustard Gas; Nigella sativa; Plant Extracts; Seeds; Trachea
Medline is the source for the MeSH terms of this document.

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