CYTOPROTECTIVE EFFECT OF BEE KEEPING PRODUCTS

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Introduction: Inhaled air may contain particles or organisms which would be pathogenic. The respiratory pathway is a prime site for exposure to pathogens and toxic substances. When these offensive agents infiltrate the superficial barriers, the body's immune system responds in an orchestrated manner. Therefore, the main purpose was to investigate cytoprotective cytotoxic effect of bee keeping products.

Methods: Cytoprotective activity of bee keeping products (honey, propolis, homogenate of drone maggots, pollen basket, pollen ball, and royal jelly) were studied using rabbit's alveolar macrophages in MTT assay (Sigma Aldrich). Bee keeping products were diluted with saline in 1:10 and 1:100 ratios; thereafter, incubated with alveolar macrophages for 2 hours. The viability of cells in the control was taken as 100%.

Results: Homogenate of drone maggots and royal jelly diluted in 1:100 ratio showed cytoprotective effect with 141,5 % and 158,2 %, respectively. Alveolar macrophage cell count in diluted honey, homogenate of drone maggots , pollen basket, pollen ball, and royal jelly in 1:10 ratio was higher in comparison to control by 36,4 ± 7,6%; 100.4 ± 8.4%, 44.4 ± 9.1%; 67,2 ± 11,3%; 86.8 ± 9.9%, respectively. Propolis did not show significant cytoprotective effect as well as cytotoxic effect.

Conclusion: Diluted honey, homogenate of drone maggots, pollen basket, pollen ball, and royal jelly upon addition to the incubation medium in a 1:10 dilution increased survival of cells, compare to control. Homogenate of drone maggots and royal jelly showed the highest cytoprotective effect.