INCREASING ANTI-INFLAMMATORY EFFECTS OF WOOD DECAYING MUSHROOM CULTURE WITH INFLUENCE OF THE MM-WAVES

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Recently, much importance search of drugs containing a set of active compounds that can effect on the various links in the development of chronic inflammatory diseases. This is due to an increased interest to the natural sources of medicinal substances, which having a rich composition of biologically active compounds are a potential and relatively safe source for a new anti-inflammatory drug. Most of medicinal plant contain biologically active compounds, among which special attention have phenol compounds, saponins, terpenoids and fatty acids. Basidial macromycetes are not only value food, but can use as source of biological active compounds as the genestein, β-glucans, glioxal–oxidase et al.

Antiviral drugs based on fungi consist in the ability to directly block the viral enzyme, synthesis or adsorption of viral nucleic acid, and the introduction of viruses in the mother cells, as well as indirectly through immune-stimulatory activity of polysaccharides or other complex molecules. Early we investigated the influence of the non-thermal extremely high frequency electromagnetic waves in the interval of 45-53GHz on mycelial culture's growth, β-glucosidase and peroxidase activity of wood-decaying mushroom. [1, 2]. On the base of observed data we suggested application of mushroom cultures by EHF EMI for resolving of problem raw source for pharmaceuticals in the abundant volume by accessible and easy path (methods). Compared to antibiotics against bacterial infections, advances in the field of antimycotics have been slow so that only few drugs for treatment of fungal infections are in current use. Some of these, such as amphotericin B, have adverse side effects.

Obtained data evidence about high anti-inflammatory activity of extracts from culture of wood-decaying mushroom's, due to increased fermentative systems, having antioxidant activity and be able to inhibited ferments, participated in synthesis and metabolism of prostaglandins. On the fig. 1 presented data on supression of rat ears accute inflammation after treatment its with mushrooms extract from treated with mm-waves and untreated micelial extracts.

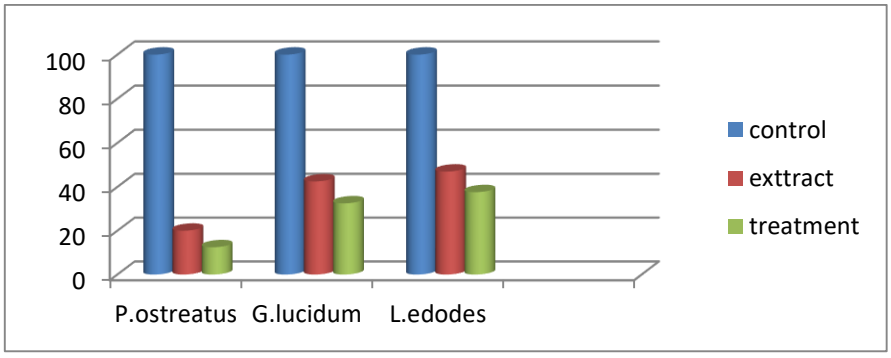

Fig.1 Increasing of medicinal properties of micelial extracts under mm-waves treatment compared to the control rat which ear inflammation not treated by any drug(extract).

The anti-inflammatory activity of mycelial extracts from three types of wood decaying mushrooms and analysis correlation dependent from peroxidase and β- glucosidase activity have been investigated. The mycelial extracts from *Pleurotus ostreatus* cultures, treated by mm-wave at 50.3 GHz, is suppressed rat ear inflammation by 87.5%. Histological studied also confirmed the anti-inflammatory effect of *Pleurotus ostreatus* mycelial extracts.