生物反應修飾劑對全身性白色念珠菌感染的保護作用之研究

PROTECTION OF SYSTEMIC CANDIDIASIS WITH BIOLOGICAL RESPONSE MODIFIERS

中文摘要

本論文乃利用靈芝丙酮捽取物三　類（GL-T）及口服 Am B 對老鼠感染白色念珠菌的保護作用，探討誘導干擾素、腫瘤壞死因子的產能力。並利用免疫抑制劑 carrageenan、rabbit anti-asialo GM1 分析抗白色念珠菌感染的作用細胞，其結果除活化巨噬細胞外，且能誘導伽傌干擾素（IFN.alpha.）的產生。其次，用三種細胞激素：介質素 1 阿發、阿發干擾素、阿發腫瘤壞死因子，投予全身性白色念珠菌感染老鼠，以瞭解激素對白色念珠菌感染的效果。結果顯示三種細胞激素都會增強老鼠抗感染的保護性，其中以介質素 1 阿發保護性最佳，且於感染前一天投予效果較好；阿發干擾素須於感染前後一天內投予效果較好；腫瘤壞死因子則須於感染後投予，始有效果。同時利用免疫抑制劑 carrageenan、rabbit anti-asialo GM1 及 Anti-Thy 1,2 來分析 IL-1.alpha. 的主要作用細胞，結果與靈芝捽取物所誘導相同—活化巨噬細胞。至於生物體抗真菌的機制，除了嗜中性白血球外，巨噬細胞及細胞激素應扮演著非常重要的角色，其間分子訊息傳遞、調節的機制，是否存有一新的意義，仍有待進一步研究。

英文摘要

This study was performed to investigate the effects of the extract from fruit bodies of fungi Ganderma Lucidum, GL-T, and amphotericin B on Candida albicans infected mice and their possible mechanisms. The protective effects can be counteracted by immunosuppressive agents such as carrageena and rabbit anti-asialo GM1. These results further support the mechanism we suggested that GL-T exerts its protective effects probably by activation of macrophage and induction of interferon production. Treatment of mice with recombinant human interleukin 1.alpha., tumor nectrosis factor, and interferon respectively greatly enhances the resistance of mice to systemic Candida albicans infection. IL-1.alpha. was the most effective among them and its protective effect was more prominant if it was given before infection. In contrast, the protective effect of IFN-.alpha. was better if it was administrated within 24 hrs before or after Candida albicans

challenge and the protective effect of TNF .alpha. was better after C. albicans challenge. As the above, these protective effect also can be blocked by immunosuppressive agents, such as carrageenan, rabbit anti-asialo GM1 and anti-Thy 1,2. These results further support the mechanism we suggest for GL-T and Amphotericin-B. In the present study, we confirmed that, in addition to neutrophils, macrophage and cytotokines might play an important role to protect mice against Candida albicans infection. The further study in the future may lead to the new approach for singals transfer and immune regulation in the host