The Influence of TLR Inhibitor LY294002 and PD98059 In-vivo to Allergic Reactions in Ovalbumin Sensitized Balb/c Mice

Abstrak:

Many of TLRs ligand substances are known beneficial for induction allergic tolerance, but until now most of these substances were still studied in vitro. To examine them in vivo, we need the capable substance to hold the reins its like as TLRs inhibitors. LY294002 and PD98059 are substances which were proved as inhibitor TLRs in vitro, but to explore in vivo we must doing the further study. The purpose of this study was to determine whether application of LY294002 and PD98059 in vivo via peritoneal injection do not influence the ovalbumin induced allergic reactions. In the experimental study, ovalbumin sensitized Balb/c mice subjects were randomized into four groups that are A, B, C and D. Group A receiving placebo while group B, C and D receiving TLR inhibitor LY294002, TLR inhibitor PD98059 and TLR inductor Lactobacillus rhamnosus GG, respectively. NFkB p105/p50 and NFkB p65 producing cells, IgE specific OVA serum, histamine serum and symptoms score were evaluated at the end of 30 days study. NFkB p105/p50 and NFkB p65 producing cells, IgE specific OVA serum, histamine serum and symptoms score were not different between group A, B and C. However group D was different in NFkB p105/p50 and NFkB p65 producing cells compared with group A, B and C. Group D was different in symptoms score compared with group A, B and C. While in IgE specific OVA serum, group D was different compared with group B and C, whereas in histamine serum, group D was different compared with group B. The conclusion of this study was the application of TLR inhibitor LY294002 and PD98059 in-vivo via peritoneal injection did not influence ovalbumin induced allergic reactions in Balb/c mice.

Keyword:

OVA, LY294002, PD98059, Toll-like Receptor, Allergic reaction