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Immunogenicity of DNA vaccine from *Mycobacterium tuberculosis* medicated by electraration

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We studied the immunogenicity of DNA vaccine from *Mycobacterium tuberculosis* medicated by electraration. 40 female BALB/c mice were immunized intramuscularly with saline, 10 μg Ag85A DNA, 50 μg Ag85A DNA and 100μg Ag85A DNA for three times at two-week intervals, respectively. 40 female BALB/c mice were medicated intramuscularly by electraration with saline, 10 μg Ag85A DNA, 50 μg Ag85A DNA and 100μg Ag85A DNA for three times at two-week intervals, respectively. There were 10 mice each group. 5 mice each group were sacrificed at 2 weeks and 6 weeks after the final immunization respectively. The copies of Ag85A DNA of intramuscular injection position in mice were measured by quantitative RT- PCR. The levels of IFN-γ and IL-4 in the culture supernatants of splenolymphacytes were measured with enzyme-linked immunosorbent assay (ELISA). The ratio of CD4+ T cells expressing IFN-γ (Th1) and IL-4 (Th2) in whole blood was detected by flow cytometry. Compared with alone intramuscular injection, the DNA copies of intramuscular injection position significantly increased in 10 μg DNA medicated by electraration group, which could induce high IFN-γ level in splenocyte culture supernatant and higher ratios of Th1/Th2 cells in whole blood; the difference of immune response of 50 μg DNA by electraration was not statistically significant; the Th1-type response of 100 μg DNA medicated by electraration was weaker and its Th2-type response was stronger. The immune response in the mice obviously decreased at 6 week after last immunization. The results suggest that lower doses of DNA immunization by electraration could improve Th1-type immune response by increasing DNA transfection of intramuscular injection position.

Biography

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