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Cytokine production and TLR 7/8 gene expression following BBIBP-CorV COVID-19 vaccination

Producción de citocinas y expresión del gen TLR 7/8 tras la vacunación con BBIBP-CorV COVID-19

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Abstract

Introduction and objective

The impact of inactivated vaccines for COVID-19, BBIBP-CorV COVID-19, on the human immune system was not studied. This study investigates the immune response induced by the BBIBP-CorV COVID-19 vaccine.

Method

A total of 90 blood samples (5ml each) were collected from participants (mean age: 20years) in Basrah, Iraq. The study included 60 vaccinated individuals (38 males, 22 females), 60days post-BBIBP-CorV vaccination and 30 unvaccinated controls (15 males, 15 females). Blood was divided: 2ml in EDTA tubes for TLR7/TLR8 mRNA expression (RT-qPCR) and 3ml in clotting activator tubes for serum isolation to measure IL-7, IL-10, IL-12, IL-18, and IL-21 levels (sandwich ELISA). Data were compared with controls and analysed for statistical differences. Volunteers with flu, COVID-19 symptoms, fever, chronic diseases, or immunocompromised conditions were excluded.

Results

The BBIBP-CorV vaccine did not disrupt cytokine production, with no significant differences in IL-7, IL-10, IL-12, IL-18, and IL-21 levels between vaccinated and unvaccinated groups after 60days