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Toxoplasma Gondii Infection Elicits The Increase of Fas Expression on The Trophoblast Associated with The Increase of Trophoblast Apoptosis

Abstract

Toxoplasma gondii infection causes the increase of trophoblast apoptosis. The mechanism of trophoblast apoptosis in Toxoplasma gondii-infected pregnant mice has not been fully understood. We measured Fas expression on the trophoblast of infected-pregnant mice. The objective of this study was to proof the effect Toxoplasma gondii infection to the increase of Fas expression on pregnant mice trophoblast and the increase of Fas expression on pregnant mice trophoblast associate with increase of trophoblast apoptosis. Forty-eight pregnant Swiss mice were divided into 6 groups. Group I, first week gestation uninfected mice. Group II, first week gestation infected mice. Group III, second week gestation uninfected mice. Group IV, second week gestation infected mice. Group V, third week gestation uninfected mice. Group VI, third week gestation infected mice. Mice were infected with 1x10^3 tachizoites T. gondii doses by intraperitoneal. Four days post infection, mice were sacrificed, placenta was removed for observation Fas expression by immunohistochemistry staining and TUNEL ASSAY with Apop tag kit was used to observe trophoblast apoptosis index. The data were analysed by ANOVA and Regression. The result showed that Fas expression was significantly difference ($p < 0.00$) between infected mice and uninfected mice trophoblast. Fas expression was increasing on trophoblast of infected mice. Fas expression in first week gestation infected mice increased 7.4 times (from 3.65% to become 27.11%); in second week increased 7.2 times (from 5.37% to become 38.50%) and in the third week increased 3.6 times (from 11.64% to become 41.44%). The increase of Fas expression was significantly elevated when a high trophoblast apoptosis index in infected mice, rather than uninfected mice. We concluded that Toxoplasma gondii infection has effect on the increase of Fas expression on pregnant mice trophoblast and Fas expression associated with the increase of trophoblast apoptosis.

Keyword: Toxoplasma, gondii, Fas, trophoblast, apoptosis, pregnancy,

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