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PARASSITOLOGIA

CYTOKINE PRODUCTION IN CONGENITAL TOXOPLASMOSIS

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INTRODUZIONE

T cell response to Toxoplasma Gondii (Toxo) infection is essential for protective immune response. We aimed to define the cytokine/chemokines signature of Toxo-specific T cells in newborns with congenital-toxoplasmosis as compared to non-infected controls.

METODI

Three hundred μl of peripheral blood from Toxo-infected (37 samples) and uninfected (33 samples) newborns were stimulated with Toxoplasmic antigen kindly provided by DiaSorin (Saluggia –Italy) at a final concentration of 1μg/ml for 24 hours. Supernatant was collected and stored frozen -80°C until analyzed for Cytokines (IFN-γ, TFN-α, IL-2 IL-4, IL-6, IL-8, IL-10, GM-CSF) by Luminex technology. The median of cytokines levels were compared by Mann-Whitney test and correlations were analysed by Spearman test.

RISULTATI

The results indicated that Toxo-specific stimulation induced a significant higher production of Th1 (IFN-γ, IL-2), Th2 (IL-4) and GM-CSF cytokines in infected than in uninfected controls ($p<0.01$). Moreover, IFN-γ production directly correlated with TNF-α ($r= 0.7$, $p<0.0001$), IL-8 ($r=0.8$, $p<0.0001$), IL-6 ($r=0.7$, $p<0.0001$), IL-2 ($r=0.7$, $p<0.0001$), IL-4 ($r=0.6$, $p=0.0008$) and GM-CSF ($r=0.5$, $p=0.0086$), suggesting a complex and well-orchestrated signature of Toxo-specific T cell response in infected newborns.

CONCLUSIONI

We described a functional signature of Toxo-specific T cell response in infected newborns and showed a strict correlation among several cytokines, suggesting polyfunctional T cell profile. These data is in agreement with previous reported data showing a complex cytokine response in plasma of infected newborns that could differ on the basis of the severity and localization of the disease. Further analysis are mandatory in order to define possible association with disease severity and to identify protective markers.