

PARASITOLOGY

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Toxoplasmosis and abortion: Pro and anti-inflammatory cytokines gene expression of the host immune cellsAmany A Abd El-Aal¹, Walid Sayed El-Sherbiny¹, Samar Sayed Attia¹, Mohamed Zaki Badr², Mona Said El-Sherbeni¹, Asmaa A Abd El-Aal¹ and Inas Z Abdel Aziz¹¹Cairo University, Egypt²Ain Shams University, Egypt

This work aimed to study gene expression profile of pro and anti-inflammatory cytokines in *Toxoplasma* sero-positive women presenting with repeated abortion compared to *Toxoplasma* sero-positive multiparous women with no history of abortions. The study groups included; group I: 19 cases of repeated abortions with no successful pregnancy, group II: 28 multiparous women, without any abortions and group III: 14 multigravida with successful pregnancies & suffered few abortions. All samples were positive for anti *Toxoplasma* IgG and IgM. Reverse transcription quantitative PCR (RT-qPCR) system was optimized to measure gene expression of pro-inflammatory IFN- γ & TNF- α and anti-inflammatory IL-10 & TGF- β cytokines. All studied cytokines were significantly up-regulated in group I, with remarkable bias towards IFN- γ , denoting a predominant inflammatory state in group I, compared to the other groups. In group II; the 4 tested cytokines were approximately in a balanced state with a little shift towards the anti-inflammatory cytokines (IL-10 & TGF- β). Furthermore, a significant positive correlation was detected between pro-inflammatory together ($p=0.002$, $r=0.96$) and between anti-inflammatory cytokines together ($p=0.0008$, $r=0.99$) in group II, indicating the harmonized and synchronized expression of both pro & anti-inflammatory cytokines. In group III, IL-10 was relatively higher versus other cytokines with negative correlation with IFN- γ ($p=0.006$, $r=0.93$), indicating the possible regulatory role of IL10 in saving some of pregnancies' outcomes in group III. The results of the present study suggests a potential role of these cytokines in the upcoming prognostic or/and therapeutic concerns in women suffering from repeated abortion associated with chronic toxoplasmosis.

Biography

Amany A Abd El Aal has completed her MD degree in Medical Parasitology from Faculty of Medicine, Cairo University in collaboration with NAMRU-3 (Navy American Military Research Unit-3), Abbasia, Cairo, from 1990 to 1995. She is a Professor since 2006 and currently working in Medical Parasitology Department as well as Army Forces of College of Medicine (AFCM). She is a Member in the scientific committee responsible for promotion of professor & assistant professor working in the field of Medical Parasitology in Egyptian universities. She has published more than 45 papers, about 20 of them in international journals.

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