

Expression of IL-19 correlates with Th2 cytokines in uraemic patients.

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摘要

Abstract

BACKGROUND: Patients with end-stage renal disease are thought to be in a chronic state of inflammation. They also have an impaired immune response with a dysregulated Th1/Th2 cytokine network. Interleukin (IL)-19, which belongs to the IL-10 family, is a newly discovered proinflammatory cytokine. IL-19 alters the balance of Th1/Th2 cells in favour of Th2. The aims of the present study were to assess the changes in serum levels of IL-19 and their correlation with Th2 cytokine production in uraemic patients. **METHODS:** Seventy-three uraemic patients with haemodialysis were evaluated; 33 healthy volunteers served as controls. Serum levels of IL-19, -4, -5, -6, -10, -13 and tumour necrosis factor (TNF)-alpha were analysed using ELISA. Monocytes and T cells isolated from the patients and healthy volunteers were cultured *in vitro*, and cytokine production was determined. **RESULTS:** IL-19 expression in the patients; but not in healthy controls, correlated positively with both the proinflammatory cytokines (IL-6 and TNF-alpha) and the Th2 cytokines (IL-4, IL-5, IL-6, IL-10 and IL-13). Cultured monocytes from patients with high IL-19 serum levels produced more IL-19 *in vitro*. Additionally, uraemic serum or oxidized low-density lipoproteins up-regulated the IL-19 transcripts expression in resting monocytes. Compared with T cells from healthy controls, uraemic T cells expressed more endogenous Th2 cytokine transcripts and further responded to IL-19 stimulation in Th2 cytokine production *in vitro*. **CONCLUSIONS:** IL-19 expression in uraemic patients correlated with Th2 immune responses which might be involved in the cytokine dysregulation in uraemia.