

Short Communication

Interleukin-17 in acute myeloid leukemia

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Abstract

There are several reports that angiogenesis plays important roles in hematological malignancies including acute myeloid leukemia (AML). Human interleukin-17 (IL-17) is a proinflammatory cytokine produced by activated CD4 T cells. IL-17 plays a potential role in T cell mediated angiogenesis. The role of IL-17 in pathologic angiogenesis has not been evaluated yet. The aim of the study was to determine plasma level of IL-17 in patients with AML. IL-17 levels were measured by ELISA in plasma samples taken from 68 adult patients with AML before chemotherapy was administered. In addition 20 out of 68 patients were reanalysed after achieving complete remission (CR). Ten samples from healthy volunteers were evaluated as the control. In this study we have demonstrated that serum level of IL-17 is not elevated in AML patients. These results suggest that angiogenesis in AML is not mediated by CD4 T cells. To our knowledge this is the first report about IL-17 serum level in acute leukemias. We are currently evaluating IL-17 levels in others haematological malignancies.

Keywords: interleukin 17 • angiogenesis • acute myeloid leukemia

Introduction

Angiogenesis refers to the formation of new capillaries from preexisting vessels. There are several reports that angiogenesis plays important roles in hematological malignancies including acute myeloid leukemia (AML). The initiation of angiogenesis and the switch to the angiogenic phenotype requires a change between proangiogenic factors and angiogenic inhibitors [1, 2]. Human inter-

leukin-17 (IL-17) is proinflammatory cytokine produced by activated CD4 T cells. IL-17 has several biologic activities such as induction of secretion of interleukin-6, interleukin-8, prostaglandin E₂, some adhesion molecules (i.e. ICAM) and tumor necrosis factor alfa (TNF α). It also acts as a stimulatory hematopoietic cytokine by expanding myeloid progenitors and initiating proliferation of mature neutrophils. IL-17 plays a potential role in T cell mediated angiogenesis [3–5]. The role of IL-17 in pathologic angiogenesis has not been evaluated yet. The aim of the study was to determine plasma level of IL-17 in patients with AML.

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