We have recently reported that excessive synthesis of proinflammatory cytokines such as interleukin-6 (IL-6) and IL-8 may play a role in the pathogenesis of mesenteric infarction. IL-4, IL-10 and IL-13 are classified as anti-inflammatory cytokines because they reduce the secretion of proinflammatory cytokines by stimulated monocytes/macrophage. During several inflammatory states anti-inflammatory cytokines are elevated suggesting their putative regulatory role in limiting the duration and extent of the acute inflammatory response. We have investigated (using ELISA kits from TEBU, France) the concentration of IL-4, IL-10 and IL-13 in the plasma of patients with mesenteric infarction before multiple organ failure development and in 10 atherosclerotic patients. Plasma IL-10 levels were significantly ($P = 0.0001$, Mann–Whitney $U$-test) higher in patients with mesenteric infarct (93.5 ± 71.9 pg/ml) than in atherosclerotic patients (3.2 ± 0.6 pg/ml). In contrast, IL-4 and IL-13 were not detected in the plasma of mesenteric infarct and atherosclerotic patients.

As for other cytokines detected in higher circulating levels during mesenteric infarct, IL-10 also represents a marker of the exacerbation of the cytokine production in these patients. The clinical usefulness of these elevated IL-10 plasma concentrations requires further evaluation. It might be suggested that they could reflect an attempt by the organism to decrease the circulating proinflammatory cytokine activity. Despite similar activities between IL-4, IL-10 and IL-13 on the synthesis of inflammatory cytokines by activated mononuclear cells, we found that IL-4 and IL-13 are not elevated in plasma during mesenteric infarct indicating that the production of the various anti-inflammatory cytokines are differently regulated in these patients.

References

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