Anti-inflammatory cytokines (IL-4, IL-10, IL-13) in plasma during mesenteric infarction

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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.¹ 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.²⁻⁴ 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.^{5,6} We have investigated (using ELISA kits from TEBU, France) the concentration of IL-4, IL-10 and IL-13 in the plasma of three patients with a 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,¹ 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,²⁻⁴ 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.

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