Interleukin-10 and -12 predict chemotherapy-associated toxicity in esophageal adenocarcinoma.

Chemotherapy-associated mucositis often prevents completion of an entire chemotherapy cycle. The underlying pathophysiology of chemotherapy-associated mucositis has not been well established. The individual immunologic predisposition of patients seems to play an important role. One hundred fifty-six patients with locally advanced or metastatic esophageal adenocarcinoma received neoadjuvant chemotherapy with cisplatin, 5-fluorouracil, and leucovorin followed by resection. Before the neoadjuvant therapy, monocytes were isolated from blood samples and were stimulated with lipopolysaccharide and interferon. An enzyme-linked immunosorbent assay was used to measure interleukin (IL)-10 and -12 levels and correlated with patients’ clinical course. Twenty-two patients (14.1%) developed grade III to IV mucositis (according to the NCI-Common toxicity criteria scales) within the neoadjuvant chemotherapy. Pretherapeutic low IL-10 (≤5500 pg/ml) levels were significantly associated with mucositis causing a therapy interruption or even cessation. Patients with high IL-10 (>43.6 pg/ml) and low IL-12 (<4408.5 pg/ml) levels had an uneventful neoadjuvant chemotherapy. Pretherapeutic individual monocyte function is correlated with the development and the grade of chemotherapy induced mucositis. This knowledge might help us in predicting the grade of mucositis and in understanding the genesis regarding the association to pro- and
anti-inflammatory effects of monocyte cytokines.

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