学 位 論 文 の 要 旨

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主論文の題名

Neutrophil Dysfunction in Steroid-overdosed Ulcerative Colitis Patients: Potential Relevance of Macrophage Migration Inhibitory Factor for Increased Postoperative Morbidity

主論文の要旨

Background: The present study aimed to clarify Macrophage migration inhibitory factor (MIF)-related neutrophil dysfunction in ulcerative colitis (UC) patients under conditions of surgical stress, with special reference to total preoperative steroid dosages. Methods: Neutrophils were isolated from peripheral blood samples obtained from 21 UC patients soon after radical surgery for UC. The patients were divided into two subgroups according to their total preoperative prednisolone dosages. Neutrophil phagocytosis, viable cells and cell necrosis rate after exposure to *Escherichia coli* were evaluated by flow cytometry. The supernatant concentrations of mediators after exposure to *E. coli* were evaluated by enzyme-linked immunosorbent assay.Results: There was a significant positive correlation between the levels of MIF and the total preoperative dosage of prednisolone. More viable neutrophils from high-dosage steroid group patients tended to undergo necrosis, followed by release of neutrophil elastase after exposure to *E. coli*, compared with neutrophils from the low-dosage steroid group. The levels of anti-inflammatory cytokines in supernatants of neutrophils from high-dosage steroid group patients were not enhanced after *E. coli* stimulation, but the levels of pro-inflammatory cytokines in supernatants of neutrophils from high-dosage steroid group patients were significantly increased. Conclusion: Steroid-overdosed UC patients with MIF-related neutrophil dysfunction may be at increased risk of suffering from destructive local inflammation following surgery.