

Minimally invasive surgery in cancer. Immunological response

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Abstract

Minimally invasive surgery produced major changes in treating abdominal malignancies and early stage lung cancer. Laparoscopy and thoracoscopy are less traumatic than open surgery: allow faster recovery, shorter hospital stay, better cosmesis. Although these clinical benefits are important, prolonged disease-free interval, long-term survival with improved quality of life are most important endpoints for oncologic surgery. Major surgery causes significant alteration of immunological response, of particular importance in oncologic patients, as postoperative immunosuppression has been related to septic complications, lower survival rate, tumor spread and metastases. Clinical studies have shown laparoscopic surgery preserves better the patient's immunological function. Postoperative plasma peak concentrations of IL-6, IL-10, C-reactive protein (CRP) and TNF- α were lower after laparoscopic colonic resection. Prospective thoracoscopic VATS lobectomy trials found better preservation of lymphocyte T-cell function and quicker return of proliferative responses to normal, lower levels of CRP, thromboxane and prostacyclin. Immune function is influenced by the extent of surgical trauma. Minimally invasive surgery show reduced acute-phase responses compared with open procedures and better preservation of cellular immune mechanisms.

Key words: minimally invasive surgery, laparoscopy, thoracoscopy, immunological response

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