Lithium carbonate in patients with small cell lung cancer receiving combination chemotherapy.


Abstract

Lithium administration has been shown to attenuate the leukopenia associated with systemic chemotherapy. The results of a randomized trial of lithium in 45 patients with small cell lung cancer who received combination chemotherapy and radiation therapy are reported. Patients randomized to receive lithium were started on 300 mg three times daily for 18 days of every 21 day chemotherapy cycle. Patients who received lithium experienced significantly less mid-cycle leukocyte and neutrophil count depression and spent fewer days with leukopenia and neutropenia than control patients regardless of age or extent of disease. Patients who received lithium spent fewer days hospitalized and fewer days with fever in the presence of severe neutropenia than control patients. The cumulative risk of fever with signs of infection was greater in control patients regardless of age, disease extent or the presence of marrow involvement. Patients who were given lithium received significantly more chemotherapy than control patients. Patient survival was greatest in those with limited disease, in complete responders and in those who received more than 75 percent of their induction chemotherapy although it did not differ between the two study groups. The majority of patients required either reduction or discontinuation of lithium. Those who received lithium continuously demonstrated a higher objective response rate and longer survival than either patients in whom the lithium had to be discontinued or those randomized to the control group. Infection was an important cause of death in the control group and cardiovascular event occurred frequently in the lithium group, but the major cause of death in this patient population remains progressive malignant disease.

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