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SHORT HYDRATION REGIMEN AND NEPHROTOXICITY OF INTERMEDIATE TO HIGH-DOSE CISPLATIN-BASED CHEMOTHERAPY FOR OUTPATIENT TREATMENT IN LUNG CANCER AND MESOTHELIOMA

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Aims and background: **Cisplatin, a standard component of combination chemotherapy for several tumors, presents important anti-tumor properties but also several toxic effects. In particular, the major dose-limiting effect appears to be renal toxicity. In several countries, to reduce nephrotoxicity after cisplatin administration, a 24-h hydration is recommended following a chemotherapy treatment in a hospital regimen. In our Institutions, cisplatin chemotherapy is an outpatient treatment that provides adequate hydration with an NaCl solution plus furosemide and diuresis monitoring during treatment.**

Methods and study design: **To assess incidence of cisplatin nephrotoxicity using a short hydration regimen, which included 2000 ml of fluids with control of diuresis, individual outpatient data was pooled retrospectively from patients enrolled in large randomized studies regarding cisplatin-based chemotherapy in lung cancer and mesothelioma. From February 1999 to November 2002, 107 patients treated with cisplatin (≥75 mg/m^2/cycle) were examined, monitoring serum creatinine and creatinine clearance levels.**

Results: **Five patients out of 107 (4.6%) were withdrawn from chemotherapy because of renal toxicity. For the other 102 patients, serum creatinine and creatinine clearance measurements were stable around the normal values during treatment. No time trends relating to serum creatinine levels or creatinine clearance and cycle numbers or cisplatin-cumulative doses were detected (P = 0.36 and P = 0.64, for the relationship with cycle number, and P = 0.39 and P = 0.65 for the relationship with cumulative dose, respectively, random effect model) after adjusting for the total number of cycles administered.**

Conclusions: **These observations indicate that intermediate to high-dose cisplatin administration is feasible in outpatient management with a short hydration regimen without high risk of nephrotoxicity.**

Key words: cisplatin, hydration, nephrotoxicity, outpatient regimen.

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