



The prophylactic conversion to an extended infusion schedule and use of premedication to prevent hypersensitivity reactions in ovarian cancer patients during carboplatin retreatment

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ABSTRACT

Objective. Repeated exposure to carboplatin can lead to hypersensitivity reactions during retreatment with carboplatin. This may prevent its further use in platinum-sensitive ovarian cancer patients. At our institution, an increasing proportion of patients are prophylactically converted to an extended schedule of infusion after 8 cycles of carboplatin. We sought to determine whether an incrementally increasing, extended 3-hour infusion of carboplatin with appropriate premedication was associated with a lower rate of hypersensitivity reactions compared to the standard 30-minute schedule in sequentially treated patients.

Methods. We performed a retrospective electronic medical record review of patients with recurrent ovarian cancer retreated with carboplatin at our institution from January 1998 to December 2008.

Results. Seven hundred and seventy-seven patients with relapsed ovarian, fallopian tube, or primary peritoneal cancer were retreated with carboplatin and met study inclusion criteria. Of these, 117 (17%) developed hypersensitivity reactions during second-line or greater carboplatin-based treatment for recurrent disease. Only 6 (3.4%) of the 174 patients who received the extended schedule developed hypersensitivity reactions (0% grade 4; 50% grade 3) compared to 111 (21%) of 533 patients in the standard schedule group (13% grade 4; 77% grade 3). The first hypersensitivity episode occurred after a median of 16 platinum (carboplatin and cisplatin) treatments in the extended group compared to 9 in the standard group. Using the Fisher exact test, there was an association with a reduced incidence of hypersensitivity reactions with the extended infusion schedule ($P < 0.001$).

Conclusion. Our data suggest appropriate premedication and prophylactic conversion to an extended infusion during carboplatin retreatment may reduce hypersensitivity reactions.

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Introduction

Hypersensitivity reactions (HSRs) can occur in epithelial ovarian cancer patients during retreatment with carboplatin, preventing further use of carboplatin. The risk of HSRs rises with increased lifetime carboplatin exposure and with a longer platinum-free interval [1–3]. Patients with recurrent epithelial ovarian cancer are frequently retreated with carboplatin for platinum-sensitive recurrent disease. The risk of HSRs in this population was as high as 44% in one series [4].

The clinical symptoms of carboplatin HSR are heterogeneous. Treatment of acute reactions with antihistamines and corticosteroids is often required. There is, however, the possibility of severe

cardiopulmonary compromise, and even death, despite aggressive resuscitative efforts [3]. For this reason, in recurrent epithelial ovarian cancer, where treatment is noncurative and several alternative non-platinum-based options exist, one must weigh the risks and benefits of further carboplatin treatment.

The recently published 2009 National Comprehensive Cancer Network (NCCN) ovarian cancer guidelines recommend that patients are counseled regarding the risk of HSRs associated with repeat use of platinum drugs [5]. They emphasize the importance of educating patients about the symptoms of HSRs. In addition, they recommend that carboplatin retreatment is administered in an appropriately equipped medical setting by staff familiar with the management of HSRs. In patients who experience severe, life-threatening carboplatin HSR, further exposure to platinum agents should be avoided. In the case of less severe HSR, a desensitization protocol is recommended for any subsequent rechallenge with carboplatin.

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