



Alternative intraperitoneal chemotherapy regimens for optimally debulked ovarian cancer[☆]

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ABSTRACT

Objective. GOG 172 showed a survival benefit with intraperitoneal (IP) cisplatin for advanced ovarian cancer, but patients tolerated the regimen poorly. We hypothesized that women treated with alternative IP chemotherapy strategies may have less toxicity and improved compliance.

Methods. We reviewed the records of women with ovarian cancer and optimal surgical debulking who underwent IP chemotherapy at our institution. Primary outcomes analyzed were completion rates and toxicities of IP chemotherapy. Secondary outcomes were progression-free and overall survival. Statistical analysis was performed using STATA 10.0.

Results. Thirty-nine patients with primary ovarian or peritoneal cancer who underwent IP chemotherapy were identified over a 2 year period. Patients were treated with IV paclitaxel followed by IP cisplatin (64%) or IP carboplatin (36%). Median two cycles of intravenous (IV) taxane and carboplatin were given prior to initiating IP therapy in 77% of patients. Median number of IP chemotherapy cycles was 5 and median total number of cycles was 8. Seventy-four percent (74%) of patients received four or greater cycles of IP chemotherapy. There was a higher rate of completion of intended number of IP cycles in the carboplatin group (92%) versus 60% in the IP cisplatin group ($p=0.05$). Grade 3 non-hematologic toxicities were more common in the IP cisplatin group than in the IP carboplatin group (24% and 0%, $p=0.046$). At median follow-up of 24 months, the median progression-free interval and overall survival have not yet been reached for either group.

Conclusion. Intraperitoneal chemotherapy regimens using carboplatin or cisplatin and dropping day 8 IP paclitaxel have less toxicity and less discontinuation of therapy.

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Introduction

Ovarian cancer is a deadly disease that afflicts approximately 22,000 women per year in the US [1]. Although advances have been made in the treatment of ovarian cancer with the adoption of taxane combined with platinum therapy [2,3], survival rates for advanced stage disease are still grim and improvement is necessary. Intraperitoneal (IP) chemotherapy, delivery of chemotherapy into the abdominal cavity, has been utilized for several decades [4–11]. Conceptually, IP therapy for ovarian or primary peritoneal cancer has sound basis as much of the metastatic disease lines the peritoneal and mesenteric surfaces, both microscopically and grossly. Recent publication of GOG 172 in January 2006 showed a significant median survival benefit of 16 months in women with optimally debulked ovarian cancer who were treated with first line IP chemotherapy versus traditional IV chemotherapy [12]. The cumulative results of seven prior randomized trials using IP therapy as first line treatment,

including three major GOG/SWOG trials, showed the pooled estimate of the treatment hazard ratio for survival was 0.79. This led the NCI to issue a clinical consensus statement that women with advanced ovarian cancer should be offered intraperitoneal chemotherapy as first line treatment (<http://ctep.cancer.gov/highlights/ovarian.html>).

However, most of these studies have shown that IP therapy is associated with significantly more grade 3 and 4 toxicities and poor tolerability leading to high rates of discontinuation compared to IV. GOG 172, in which the IP regimen consisted of IV paclitaxel and IP cisplatin followed by day 8 IP paclitaxel, showed significant toxicities, such as irreversible neuropathy, severe abdominal pain, catheter complications, and worse quality of life during treatment, leading many patients to discontinue IP therapy [12,13].

Since then, there has been vigorous debate over what constitutes the “standard” intraperitoneal chemotherapy regimen – one that preserves the survival benefit with elimination or reduction of the toxicities seen in prior studies. The aim of this study was to analyze a group of contemporary ovarian cancer patients at a single high volume institution who received primary treatment with intraperitoneal chemotherapy utilizing either cisplatin or carboplatin for toxicities, complications, completion rates, and progression-free and overall survival.

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