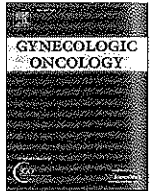




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Beyond tertiary cytoreduction in patients with recurrent epithelial ovarian, fallopian tube, or primary peritoneal cancer

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ABSTRACT

Background. Primary, secondary, and possibly tertiary surgical cytoreduction in patients with recurrent epithelial ovarian (EOC), fallopian tube (FTC), or primary peritoneal (PPC) cancer appears to be associated with a survival benefit. The objective of this study was to assess if cytoreduction of recurrences after tertiary cytoreduction offers any potential benefit in these patients.

Methods. We performed a retrospective chart review of all patients with recurrent EOC, FTC, or PPC who underwent additional cytoreductive procedures after a prior tertiary cytoreduction (quaternary cytoreduction) at our institution between 1991 and 2008. Disease-specific survival (DSS) was calculated from the time of quaternary cytoreduction to last follow-up. Univariate analyses were used to analyze outcomes and to identify potential prognostic factors.

Results. A total of 15 patients were identified, of which 7 (47%) have died of disease. All patients had undergone prior optimal secondary and tertiary surgical cytoreductive procedures. The size of residual disease varied from 0 (in 10 cases/67%) to >1 cm (in 2 cases, 13%). Residual disease (≤ 1 cm vs >1 cm) and number of recurrence sites (single vs multiple) were found to be significant prognostic factors on univariate analysis.

Conclusions. Cytoreductive surgery beyond tertiary cytoreduction may be a reasonable option in highly select patients with recurrent epithelial ovarian, fallopian tube, or primary peritoneal cancer, especially in the setting of a single site of recurrent disease.

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Introduction

Ovarian cancer is the fifth-leading cause of cancer death in women [1]. Most women with ovarian cancer present with advanced stage disease. While 80–90% of patients achieve complete clinical remission after surgical cytoreduction and platinum-based chemotherapy [2], 70–90% of patients will develop recurrent disease [3].

The role of surgical cytoreduction in the primary setting of ovarian cancer is widely accepted. The benefit of optimal primary surgical cytoreduction on survival has been demonstrated in numerous studies [2,4–9]. Those studies are all retrospective in nature. The definition of optimal surgical cytoreduction has also varied [10]; currently, the Gynecologic Oncology Group (GOG) defines optimal cytoreduction as having residual tumor measuring 1 cm or less in maximal diameter after surgery. Recent data have demonstrated that an improvement in survival for patients undergoing cytoreduction is mostly seen if there is less than 0.5 cm residual disease or no gross residual disease [9,11]. A recent randomized control trial addressing this issue has been completed, but the data are unpublished.

The role of surgical cytoreduction in the setting of recurrent EOC is not as well defined and even more controversial. A number of retrospective studies have reported an association with outcome in patients who underwent a secondary surgical cytoreduction [12–24]. Treatment-free interval prior to secondary cytoreduction and residual disease after surgery have been demonstrated to be associated with outcome [22,23]. The GOG currently is conducting a randomized trial addressing the role of secondary cytoreductions.

Nearly all patients who develop a first recurrence and are in a second clinical remission will eventually develop another recurrence. Limited data specific to cytoreduction beyond the upfront and secondary settings (i.e., tertiary cytoreduction) exist. We have previously reported on a survival advantage for tertiary cytoreductive surgery in recurrent ovarian cancer [25]. We found that the survival benefit was greatest in patients who had an optimal tertiary cytoreduction defined as no residual disease greater than 0.5 cm or had a treatment-free interval greater than 12 months. A subsequent study on tertiary cytoreductive surgery also demonstrated a survival benefit in optimal cytoreductive surgery, especially in patients with limited disease implants at laparotomy [26].

As the survival from ovarian cancer improves with advances in surgical technique and chemotherapy regimens, an increasing number of patients will develop recurrent disease beyond the secondary and tertiary setting. The objective of this study was to

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