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Cytoreductive Surgery and Hyperthermic Intraperitoneal Chemotherapy (HIPEC) for Persistent and Recurrent Advanced Ovarian Carcinoma: A Multicenter, Prospective Study of 246 Patients

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ABSTRACT

Background. Epithelial ovarian carcinoma is the main cause of death from gynaecological cancers in the western world. The initial response rate to the frontline therapy is high. However, the prognosis of persistent and recurrent disease remains poor. During the two past decades, a new therapeutic approach to peritoneal carcinomatosis has been developed, combining maximal cytoreductive effort with hyperthermic intraperitoneal chemotherapy (HIPEC).

Methods. A retrospective, multicentric study of 246 patients with recurrent or persistent ovarian cancer, treated by cytoreductive surgery and HIPEC in two French centers between 1991 and 2008, was performed.

Results. An optimal cytoreductive surgery was possible in 92.2 % of patients. Mortality and morbidity rates were 0.37 % and 11.6 %, respectively. The overall median survival was 48.9 months. There was no significant difference in overall survival in patients with persistent or recurrent disease. In multivariate analysis, performance status was a significant prognostic factor in patients with extensive peritoneal carcinomatosis (peritoneal cancer index >10).

Conclusions. Salvage therapy combining optimal cytoreductive surgery and HIPEC is feasible and may achieve long-term survival in highly selected patients with recurrent ovarian carcinoma, including those with platinum resistant disease, with acceptable morbidity.

Epithelial ovarian carcinoma (EOC) is the main cause of death from gynecological cancers in the western world.[1] Often diagnosed at an advanced stage when peritoneal carcinomatosis (PC) has developed, the disease remains confined to the peritoneal cavity for much of its natural history.[2] Standard frontline therapy is comprehensive cytoreductive surgery (CRS) followed by platinum-based systemic chemotherapy.[3] The initial response rate is high; however, approximately 20 % of EOC are naturally resistant to platinum.[4] Of those with platinum-sensitive disease that achieve a frontline complete pathologic response confirmed at a second surgery, 60 % will recur within 5 years.[5] Because of selection pressure over time most tumor recurrences develop resistance to systemic platinum. Options for salvage therapy include alternative systemic chemotherapy and further CRS, but the prognosis remains poor.[6–8]

During the two past decades, a new therapeutic approach to PC has been developed, combining maximal cytoreductive effort with hyperthermic intraperitoneal chemotherapy (HIPEC).[9] Its efficacy in nongynecologic carcinomatosis has been widely demonstrated.[10–12]

The sensitivity of EOC to chemotherapy and retention within the peritoneal cavity make it an ideal target for directed locoregional treatment utilizing intraperitoneal chemotherapy. Although intraperitoneal chemotherapy has been shown to have significant efficacy in frontline EOC in three, large, randomized studies, it has not been fully adopted as standard care, especially in Europe, partly

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