

Delay in Chemotherapy Administration Impacts Survival in Elderly Patients with Epithelial Ovarian Cancer

Naima Joseph MD^a, Rachel M. Clark MD^b, Don S. Dizon MD^b, Malinda S. Lee MD, MBA^a, Annekathryn Goodman MD^b, David Boruta MD, Jr.^b, John O. Schorge MD^b, Marcela G. del Carmen MD, MPH^b, Whitfield B. Growdon MD^{b*}

^a Vincent Obstetrics and Gynecology, Massachusetts General Hospital, Harvard Medical School, 55 Fruit St., Founders 5 Suite 546A, Boston, MA, 02115, USA

^b Division of Gynecologic Oncology, Vincent Obstetrics and Gynecology, Massachusetts General Hospital, Harvard Medical School, 55 Fruit St., Founders 5 Suite 546A, Boston, MA, 02115, USA

***Corresponding Author:** Whitfield B. Growdon, Division of Gynecologic Oncology, Vincent Department of Obstetrics and Gynecology, Massachusetts General Hospital, Yawkey 9E, 55 Fruit Street, Boston, Massachusetts 02114. Phone: (617) 724-4800. Fax (617) 726-0561. E-mail: wgrowdon@partners.org

Conflicts of Interest

The authors have no conflicts of interest pertaining to the data in this report.

ABSTRACT

Objectives: The objective of this study was to characterize chemotherapy treatment patterns in elderly patients with epithelial ovarian cancer (EOC) and their impact on overall survival (OS).

Methods: We identified patients age ≥ 65 years with stage II-IV EOC who underwent cytoreduction from 2003 - 2011. Relevant clinical variables were extracted and correlated with OS. Statistical analyses were performed using logistic regression, Kaplan-Meier methods, and multivariable Cox proportional hazard models.

Results: One hundred and eighty-four patients were included in the analysis. The average age was 73 years with American Society of Anesthesiology Physical Status Class 2 or 3. Approximately 78% underwent primary debulking surgery (PDS). OS for the entire cohort was 3.3 years. One hundred and fifty-seven patients received adjuvant chemotherapy, of which 70% received initial platinum-based doublet therapy; 67.5% of patients were able to complete the intended six cycles of chemotherapy; of these, 34% experienced a dose reduction and 45% experienced one or more dose delays. Any dose delay was associated with a decrease in overall survival ($p = 0.02$) and remained significant even after controlling for ASA class, stage, and residual disease ($p=0.029$).

Conclusions: Elderly EOC patients frequently required chemotherapy dose reductions and delays in chemotherapy administration. Multivariate analysis confirmed that dose delays are an independent factor associated with decreased OS.