

#2531 Expression of p53 but not WAF1 is a predictor of response to platinum-based chemotherapy in patients with epithelial ovarian cancer. Levesque, M.A., Yu, H., Genta, F., Massobrio, M., Durando, A., Bellino, R., Diamandis, E.P., and Katsaros, D. *Mount Sinai Hospital, Toronto, ON, Canada M5G 1X5; Louisiana State University Medical Center, Shreveport, LA 71130; and University of Turin, Turin, Italy 10126.*

This study was designed to determine whether patients who received adjuvant chemotherapy for epithelial ovarian cancer could be stratified into groups with different prognoses based on the immunoassay-quantified expression levels of two proteins—the p53 tumor suppressor and its downstream mediator WAF1 (p21/CIP1/SDI1). The concentrations of both proteins, measured in ovarian tumor extracts from 120 patients, were also compared between groups differing on the basis of treatment response. Whereas p53 levels were elevated in patients with advanced stage disease ($P = 0.02$) or poorly differentiated ($P = 0.03$), suboptimally debulked tumors ($P = 0.02$), as well as in patients who failed to respond to chemotherapy ($P = 0.03$), statistically significant associations between concentrations of p53 and WAF1 were not found. WAF1 was also not significantly associated with treatment response and clinicopathologic markers of prognosis. Univariate Cox regression analysis showed that p53 concentrations above the median indicated higher relative risks (RR) for relapse ($P = 0.04$) and death ($P < 0.01$) and showed evidence for a dose-response effect between p53 concentrations and risks for relapse ($P = 0.04$) and death ($P < 0.01$). Multivariate analyses confirmed these observations (RR = 1.50; $P = 0.05$ for relapse and RR = 1.92; $P = 0.03$ for death). WAF1-positivity was not a significant predictor of outcome in survival analysis. In summary, p53 expression was an independent indicator of prognosis in ovarian carcinoma patients treated with adjuvant chemotherapy and was associated with responsiveness. Prognostic and predictive implications of WAF1 expression, however, could not be demonstrated.