

## **M30 ANTIGEN: A NOVEL SERUM BIOMARKER TO PREDICT THE RESPONSE TO NEOADJUVANT CHEMOTHERAPY IN BREAST CANCER**

**E. Ulukaya<sup>1</sup>**, M. Demiray<sup>2</sup>, M. Arslan<sup>2</sup>, S. Gokgoz<sup>3</sup>, S. Ozlem<sup>2</sup>, I. Ercan<sup>4</sup>, T. Evrensel<sup>2</sup>,  
O. Manavoglu<sup>2</sup>

<sup>1</sup>*Uludag University, Biochemistry of Medical School, Bursa, Turkey*, <sup>2</sup>*Uludag University, Medical Oncology, Bursa, Turkey*, <sup>3</sup>*Uludag University, General Surgery, Bursa, Turkey*, <sup>4</sup>*Uludag University, Statistic Dept., Bursa, Turkey*

Oncologists are always eager to predict the effectiveness of chemotherapy as soon as possible after its application. However, there has been no ideal marker for prediction. In this study, we aimed to investigate a possible role of a chemotherapy-induced novel biomarker in the prediction of response to neoadjuvant chemotherapy in breast cancer. During the chemotherapy, cancer cells undergo apoptosis in which caspases are specifically activated. Caspase-cleaved cytokeratin 18 (also called M30 antigen) is released from apoptotic cells into circulation upon the induction of apoptosis. Therefore, we evaluated the relationship between M30 antigen level and effectiveness of chemotherapy in neoadjuvant setting.

Forty-two patients with invasive breast carcinoma received four cycles of anthracycline based neoadjuvant chemotherapy. Serum samples were obtained for assessment of M30 antigen levels before the administration of first chemotherapy cycle (baseline), and then after 24 and 48 hours in order to detect chemotherapy-induced apoptosis. M30 antigen levels at 24 and 48 hours were found to be significantly higher than baseline ( $p < 0.001$ ,  $p = 0.003$ , respectively). M30-antigen levels in responders showed statistically significant increases at 24 and 48 hours ( $p < 0.001$ ;  $p = 0.004$ , respectively), while statistically significant increases were not observed in non-responders. Percentage change of M30-antigen levels was significantly higher in responders than non-responders at 24 hours ( $p = 0.020$ ). In conclusion, our study suggested that assessment of this novel serum biomarker (M30 antigen) may be an indicator of the effectiveness of chemotherapy, and thereby help to predict the outcome of patients as early as 48 hours after the treatment.