Lung cancer is the second most common cancer in both men and women and is the leading cause of cancer-related death in both. Various studies have reported sex differences in susceptibility and survival of lung cancer suggesting a relationship between hormones and lung cancer risk. Estrogen receptor (ER) acts as a tumor promoter via a receptor mediated mechanism to induce cell proliferation in breast cancer, endometrial cancer, and ovarian cancer and is a useful target for hormonal therapy in the treatment of breast cancer. Glucocorticoids (GCs) are produced in times of physiologic stress and have medical applications for their immunosuppressive and anti-toxic effects and, as such, are often used in cancer treatment in combination with chemotherapy. GCs are also used as a treatment for acute lymphoblastic leukemia because they induce apoptosis in leukemic cells. However, in breast cancer cell lines, pretreatment with GCs can inhibit chemotherapy induced apoptosis in a glucocorticoid receptor (GR) dependent manner. Thus, GR expression, effects of GC therapy, and correlation with patient outcome are not well understood and may, in fact, be cell type specific. Our study examines steroid hormone receptor expression, including GR, ERalpha, ERbeta, and androgen receptor (AR), in primary non small cell lung cancer (NSCLC) including adenocarcinoma (AdCa), squamous cell carcinoma (SCC), and large cell carcinoma, and small cell lung cancer (SCLC) and correlates these data with patient survival.

Mean scores of expression of steroid hormone receptors. GR levels were highest in AdCa (mean score of 2.4) while SCLC showed significantly lower levels (means score of 0.7).

In patients with NSCLC, no difference in survival was seen based on low versus high GR expression. In patients with SCLC, low expression correlates with worse prognosis, suggesting that GR expression may be a useful predictor of survival in patients with SCLC. Because of the common use of steroids in combination with chemotherapy for the treatment of lung cancer, further studies are needed to specifically analyze survival data following GC treatment and chemotherapy to determine the combined effect on patient outcome.

**REFERENCES**
