Researchers at the University of South Florida have developed a method of predicting tumor recurrence in a patient that has undergone full tumor removal surgery.

An estimated 234,000 patients will be diagnosed with lung cancer in 2018, with non-small-cell carcinomas (NSCLC) accounting for a majority of the cases. In early clinical stages surgical removal of the cancer alone offers poor long-term survival. Additionally, attempts to improve survival by postoperative chemotherapy, radiation, or both in NSCLC have been uniformly dismal. A better understanding of the biology of NSCLC could enable doctors to predict for recurrence and may also be useful in selecting therapeutic intervention with optimal impact on recurrence, survival, and quality of life. Proteins of the DNA repair process are thought to repair DNA damaged by certain chemotherapy agents, and the genes that code for these proteins may help predict the recurrence of cancer after surgical intervention.

USF researchers have found that the excision repair cross-complementing (ERCC) genes, which play a role in DNA repair, predict for response to platinum-based chemotherapy. They found that patients with early stage lung cancer and high ERCC expression have a better survival than patients with low ERCC expression. Based on this discovery, the researchers have developed a method of predicting a patient’s response to chemotherapy which allows for the prediction of tumor recurrence after tumor removal. This method will provide doctors with a tool to determine the optimal post operation treatment strategies for patients undergoing surgical tumor removal of lung cancer.

**ADVANTAGES:**
- Novel biomarker for NSCLC lung cancer
- Predicts for response to platinum-based chemotherapy
- Assists in determining optimal treatment options after surgery

**Biomarker that Determines Likelihood of Tumor Recurrence After Surgical Removal**

**Regression of Lung Cancer After Chemotherapy Treatments**

Tech ID # 02B057  Patent #: 8,580,498