

# FDG-PET appears promising for predicting prognosis of patients with inoperable NSCLC

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The prognosis for patients with stage II and III inoperable non-small cell lung cancer (NSCLC) is poor, with only about 15 percent of patients surviving at five years post-treatment for the disease. While new treatment strategies are being intensely studied, timely assessment of their efficacy has proven difficult. In a presentation today, Mitchell Machtay, MD, principal investigator of the ACRIN 6668/RTOG 0235 trial and RTOG deputy chair, reported that post-treatment F-18 fluorodeoxyglucose-positron emission tomography (FDG-PET) scans show promise for predicting the prognosis of patients with inoperable disease.

"These results are encouraging," says Machtay. "Definitive prognostic information after a patient completes therapy has not been available for making decisions about further treatment options, and these preliminary results suggest that FDG-PET may play an important role in that regard."

Twenty ACRIN and RTOG participating sites enrolled 251 patients into the [phase III](#) trial that gathered pre- and post-treatment FDG-PET scans — treatment included both chemotherapy and radiation therapy. Specifically, investigators sought to determine if the standardized uptake value (SUV), a quantitative measure of how rapidly tumor cells are using the glucose-based FDG radiotracer, obtained on post-treatment FDG-PET scans was predictive of a patient's survival. As Machtay reported, "The post-treatment scan was predictive for patients' prognosis by identifying that patients with high levels of FDG uptake following treatment had more aggressive tumors that were more likely to recur,

and the higher the SUV measure in the primary tumor, the greater the recurrence rate and the lower a patient's corresponding survival outlook."

"The results announced today suggest that FDG-PET has a role in helping physicians make more informed treatment decisions, such as starting a patient on a new chemotherapy program," says Barry Siegel, MD, ACRIN co-deputy chair and medical director of the ACR PET Imaging Core Laboratory, "and helping investigators determine whether a treatment regimen is worthy of further study before long-term survival data are available."

The FDG-PET scan results provided for this analysis were interpreted by physicians at the participating sites. Further analyses are ongoing evaluating scan data interpreted by central review at the ACR Imaging Core Laboratory and using other semi-quantitative measures.

Provided by American College of Radiology

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