

Pretreatment SUV associated with head and neck cancer treatment outcomes, may help decide treatment plans

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The maximal standardized uptake value (called SUVmax) measured from FDG PET readings taken from the primary tumor in head and neck squamous cell carcinoma patients before treatment is a strong predictor of disease-specific survival, overall survival and disease-free survival, while pretreatment SUVmax for lymphadenopathy is strongly associated with distant metastasis, according to a study presented at the Multidisciplinary Head and Neck Cancer Symposium.

Since the head and neck area of the body is very rich in lymphatic drainage, it is common for head and [neck cancer](#) patients to also have lymphadenopathy, which is an enlarged neck lymph node.

Researchers from the University Hospitals Case Medical Center in Cleveland and the University of Nevada at Reno School of Public health in Reno, Nev., conducted a retrospective study of 295 patients treated with IMRT, with 177 having FDG PET before treatment and having a record of SUVmax for either their [primary tumor](#) and/or lymphadenopathy (SUV-LN).

"The findings of this study show that we may use SUV before treatment to personalize treatment approaches for some head and neck cancer patients since SUV has been shown to be associated with treatment outcomes," Min Yao, M.D., Ph.D., lead author of the study and a radiation oncologist at University Hospitals Case Medical Center in

Cleveland, said. "Higher SUV may mean more aggressive treatment approaches, and since we now know that SUV of the lymph node is associated with distant metastasis, those patients with high SUV-LN may need more aggressive systemic chemotherapy."

The three-year distant metastasis-free survival and disease specific [survival rates](#) for all patients were both 78.8 percent and the disease free survival and overall survival rates were 63.95 and 67.4 percent, respectively. SUVmax of the primary tumor was found to be significantly associated with disease specific survival and overall survival and strongly associated with disease free survival. SUV-LN was significantly associated with distant metastasis, with the distant metastasis-free survival rate being 82.1 percent at three years when the SUV-LN was less than 11.3 and 63.4 percent when the SUV-LN was greater than 11.3.

Provided by American Society for Radiation Oncology

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