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Teamwork cuts out unnecessary biopsies, researchers find

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Unnecessary biopsies could be a thing of the past for patients undergoing treatment for head and neck cancer. New Saint Louis University research found that when nuclear medicine clinicians and treating physicians work together to interpret PET-CT scan results, the accuracy dramatically improves, sparring patients unnecessary pain and suffering.

Often used prior to and after cancer treatment, the highly sensitive PET-CT has improved the ability to detect and treat head and neck cancer. However, it can give a significant number of false positive results, which then require a biopsy to rule out cancer that could have been left behind during the initial treatment.

According to Mark Varvares, M.D., the study's lead author and the Donald and Marlene Jerome Endowed Chair in Otolaryngology - Head and Neck Surgery at Saint Louis University, both nuclear medicine and treating physicians have become better at interpreting PET-CT scans.

"If we improve the accuracy of the scans by including clinical information, the treating physician or cancer specialist will be able to say with confidence that we do not need to biopsy something – that it's just post-operative inflammation."

Unnecessary biopsies are dangerous for head and neck cancer patients who have already undergone intensive radiation and chemotherapy. It can create a non-healing situation that can result in a catastrophic event, such as needing to remove the voice box, Varvares explained.

Varvares and his colleagues studied the scan results of 180 head and neck cancer patients who had undergone evaluation with PET-CT prior to and after treatment. To study the added value of including clinical information, they compared the incidence of false positive findings from PET-CT scans with those that both nuclear medicine and treating physicians had evaluated.

Alone, PET-CT scans produced a false positive rate of 65 percent and a false negative rate of 8 percent. However, when clinical information was included, the false positive rate dropped to 14 percent and the false negative rate dropped to 2 percent.

"Excellent communication between the nuclear medicine physician and treating clinician is crucial to improving scan accuracy," Varvares said.

In addition to improving the care of head and neck cancer patients, Varvares says that improving the accuracy of PET-CT scans and limiting the number of biopsies needed has the potential to be more cost-effective.

The research findings were presented on Tuesday, July 22 at the 7th International Conference on Head and Neck Cancer in San Francisco, Calif.

Source: Saint Louis University