Shorter, Less Intense Radiation-Chemo Regimen Effective for HPV-Linked Oral Cancer

Shortened radiation and chemotherapy after surgery led to fewer side effects while maintaining high cure rates.

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A Mayo Clinic study finds that a shortened, less intense course of radiation and chemotherapy after minimally invasive surgery for HPV-positive oropharyngeal squamous cell carcinoma (HPV+OPSCC) results in less toxicity, substantially lowering the rates of treatment-related side effects while maintaining high cure rates. The findings were published in The Lancet Oncology.

“This is a game-changer for patients,” says Daniel Ma, MD, senior author of the study and head and neck radiation oncologist at Mayo Clinic Comprehensive Cancer Center. “We’ve significantly reduced the burden of long-term side effects without compromising the effectiveness of the treatment. This shorter, less intensive regimen allows patients to return to their lives more quickly and with a better quality of life.”

Standard treatments for HPV-related oropharyngeal cancer typically involve seven weeks of daily radiation and chemotherapy, or surgery followed by six weeks of radiation and chemotherapy. While highly effective, these treatments often lead to significant long-term side effects due to high toxicity, such as jawbone failure, dry mouth, changes in taste and challenges with swallowing. “These greatly affect the quality of life for patients, many of whom are young, in their 40s and 50s,” says Dr. Ma.

In the randomized Phase 3 study, Mayo Clinic researchers compared the standard treatment to a new approach involving minimally invasive transoral surgery followed by a two-week course of gentler radiation therapy called de-escalated regimen of adjuvant radiotherapy (DART). DART uses about half as much radiation and a reduced dose of chemotherapy, one-fifth of the standard dose.

The results demonstrated that the less intensive treatment approach significantly reduced both severe (grade 3 or higher) and moderate (grade 2) toxicities, indicating fewer adverse events and improved symptom burden for patients following treatment. Importantly, disease control rates were comparable to the standard treatment for intermediate-risk patients.

For specific high-risk patients, namely those with five or more lymph nodes and disease extending outside of the lymph nodes, the standard treatment showed slightly better disease control, potentially due to chemotherapy-related factors rather than radiation. The researchers add that these patients should still receive the standard six-week treatment.

The study involved 228 patients treated at Mayo Clinic in Minnesota and Arizona. The researchers say that this study represents the largest cohort of postsurgical de-escalation patients in the published literature.

Further, ongoing research will continue to explore using biomarkers such as circulating DNA to find the best patient populations for this treatment strategy.

Review the paper for a complete list of authors, disclosures and funding.

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