

# New treatment offers benefit for hypoxic laryngeal tumors

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(HealthDay) -- For patients with squamous cell laryngeal cancer, regional control rates are improved with accelerated radiotherapy (AR) plus carbogen inhalation and nicotinamide (ARCON) treatment compared with AR-alone, with the improvement seen in patients with hypoxic tumors, according to research published online April 16 in the *Journal of Clinical Oncology*.

Geert O. Janssens, M.D., of the Radboud University Nijmegen Medical Centre in the Netherlands, and colleagues conducted a phase 3 randomized study involving 345 patients with cT2-4 squamous cell laryngeal cancer who were treated with either AR, which consisted of 68 Gy within 36 to 38 days, or ARCON, which included 64 Gy on the laryngeal cartilage. In a side study, the oxygenation status was assessed in [tumor biopsies](#) using pimonidazole.

After a median follow-up of 44 months, the researchers found that the local tumor control rate was similar for AR and ARCON (78 and 79 percent, respectively;  $P = 0.80$ ), with similar larynx preservation rates (84 and 87 percent, respectively;  $P = 0.48$ ). However, the secondary end point, five-year regional control, was

significantly better with ARCON versus AR (93 versus 86 percent;  $P = 0.04$ ). Improved regional control was only observed in patients with hypoxic, not well-oxygenated, tumors. No difference in treatment-related toxicity between the AR and ARCON regimens was observed.

"The use of ARCON in stage II to IV laryngeal cancer produced a significant gain in regional control rate compared with AR, with similar acute and late [toxicity](#)," the authors write. "Proper patient selection based on [tumor biology](#) is key to the success of this approach."

**More information:** [Abstract](#)

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