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## Hearing Loss Common Following Radiation Therapy for Head and Neck Cancer

*Patients who undergo radiation therapy for head and neck cancer appear more likely to experience hearing loss and to be more disabled by its effects than those who do not receive such treatment, according to a report in the November issue of Archives of Otolaryngology-Head & Neck Surgery, one of the JAMA/Archives journals.*

Head and neck cancer is the sixth most common type of cancer worldwide, according to background information in the article. Treatment methods include surgery, chemotherapy and radiation therapy, either alone or in combination. Choice of treatment depends on factors such as size and location of tumor, disease stage, the patient's condition and whether the cancer can be cured. Any of these treatment methods may affect the auditory system and cause temporary or permanent hearing loss.

Radiation therapy is increasingly being used on head and neck tumors, and close to 100 percent of the radiation delivered may reach the structures of the auditory system, the authors note. Christiane Schultz, M.S., of Hospital do Cancer A.C. Camargo, Sao Paulo, Brazil, and colleagues studied 282 individuals, including 141 who had undergone radiation therapy for head and neck tumors and 141 controls who had never undergone a treatment that placed their hearing at risk. All participants underwent hearing evaluations and completed questionnaires regarding how any hearing loss they had experienced was affecting their lives.

Hearing loss was detected in 102 (72.3 percent) of the participants who were exposed to radiation therapy and 69 (48.9 percent) of those in the control group. Hearing loss was mostly sensorineural (resulting from disorders or damage involving the nerves or the inner ear) as opposed to conductive (resulting from interference in sound transmission, usually involving the outer or middle ear). Severe or profound hearing loss occurred in 6.4 percent of right ears and 8.5 percent of left ears in the radiation-

treated group, as compared with 0.7 percent in the right ears and 1.4 percent in the left ears of control group participants.

Participants in the radiation treatment group were more likely to be severely impaired by hearing loss (19.1 percent, vs. 2.8 percent in the control group). "This indicates that, when present, hearing losses were substantially greater and more incapacitating after the radiotherapy," the authors write.

Study participants whose hearing loss was untreated were more likely to feel lonely, depressed, worried, anxious or paranoid, had fewer social activities and were less able to process information about their environment. "Hearing loss is still given little recognition and little value, and, for this reason, it is not always treated as a health abnormality," the authors conclude. "However, it is one of the biggest chronic problems among elderly people and, as seen from the present study, the population with cancer is even more affected by this. Concern for the quality of life of patients undergoing cancer treatment is necessarily growing, and determination of hearing loss should form part of such investigations to enable better rehabilitation."

**Source:** Christiane Schultz; Maria Valeria Schmidt Goffi-Gomez; Patricia Helena Pecora Liberman; Antonio Cassio de Assis Pellizzon; Andre Lopes Carvalho. Hearing Loss and Complaint in Patients With Head and Neck Cancer Treated With Radiotherapy. Archives of Otolaryngology-Head & Neck Surgery, 2010; 136 (11): 1065-1069 DOI: 10.1001/archoto.2010.180