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Title: Reliability of clinical follow-up in the detection of residual diseases after non-surgically treated oropharyngeal cancer patients

Body: Background: The aim of the study was to evaluate the diagnostic efficacy of our routine follow-up protocol regarding the detection of local residual disease in OPSCC patients treated with curative definitive radiotherapy.

Methods: The follow-up data of 208 OPSCC patients treated between 12/1998 and 12/2022 were retrospectively evaluated. All patients were followed up by clinical examination and a cross-sectional imaging study, which included a CT in 76%. The accuracy of both was compared regarding the diagnosis of residual local disease at the first follow-up 3 months after completion of treatment.

Results: A total of 55 (26.4%) local residual diseases were detected at the first post-treatment assessment. The overall accuracy was notably higher for clinical head and neck examinations compared to radiological studies (90.9% vs. 72.1%). Of note, the rate of false-positive reports was 3.6-times higher for radiological compared to clinical assessments (24.5% vs. 6.7%; $p=0.001$). HPV/p16 status significantly affected accuracy ($p=0.001$).

Conclusion: The patient assessment with clinical examinations is highly efficient for local surveillance after primary radiation therapy, particularly in HPV-associated OPSCC patients. Imaging studies for the detection of local residual disease showed a high rate of false positive results.

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