Total lesion glycolysis: A possible new prognostic parameter in oral cavity squamous cell carcinoma

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Abstract:

OBJECTIVES: We sought to determine potential prognostic value of total lesion glycolysis (TLG) calculated from combined positron emission tomography/computed tomography (PET/CT) in patients with oral cavity squamous cell carcinoma (OSCC).

MATERIALS AND METHODS: We prospectively studied 126 patients with OSCC who underwent PET/CT before definitive treatment by radical surgery. The metabolic tumor volume (MTV) was calculated for the primary tumor according to an absolute standardized uptake value (SUV) of 3. TLG was calculated as MTV x the average SUV. The nodal SUVmax was also recorded. The median value of SUVmax and TLG were used to divide the patients into two categories (high and low). Patients were followed up until death or for at least 24 months from their surgery. Disease-free (DFS) and disease-specific survivals (DSS) were the main outcome measures. RESULTS: The median TLG of the primary tumor ((T)TLG) was 71.4, and the median nodal SUVmax ((N)SUV) was 7.5. Patients with high (T)TLG (≥ median) had a 2-year DFS of 52% whereas the DFS was 74% for those with a low (T)TLG (P=0.007); the 2-year-DSS rates were 53% vs. 84%, respectively (P

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