CORRESPONDENCE

(The Editors do not hold themselves responsible for opinions expressed by correspondents)

Post-radiogenic density changes on CT of the salivary gland are time-dependent

The Editor,

It was with great interest I read the review by Cheng et al [1] about the assessment of salivary glands after radiotherapy. Owing to its widespread availability and low cost, CT is the most frequently used imaging procedure in the staging and post-therapeutic follow-up of head and neck tumours. As described by the authors there are surprisingly few reports on radiation induced changes of the salivary glands on CT. Regarding this topic I would like to add further data, which we presented at last year's meeting of the German Radiological Society (DRG) [2]. We retrospectively studied the changes in density and volume of the submandibular gland in pre- and post-therapeutic examinations in a small sample of patients (10 male patients, mean age 46 years, primary radiochemotherapy of a histological proven squamous cell carcinoma of the hypopharynx with fractionated radiation of 55–65 Gy and 5 FU/ cisplatin, imaging after application of 120 ml of iodinated contrast media intravenously). The density of the submandibular gland showed a time-dependent course. First there was an increase in the median density of approximately 19% in the first post-therapeutic examination (1–2 months after final of radiotherapy treatment). The median density then showed a minimal decrease of 5% compared with the pre-therapeutic examination 4–6 months after the final radiotherapy treatment and a strong decrease in median density of 55% in examinations over 1 year after cessation of the radiotherapy. Bronstein et al [3] also reported an increase in the density of salivary glands after radiotherapy, but they performed only one

post-therapeutic scan per patient, so a time-dependent change could not be assessed [3]. We believe that these time-dependent changes are in accordance with the timing of pathological changes with acute inflammatory reaction followed by progressive fibrotic changes [4]. Despite the preliminary nature of this data radiologists should be aware of these time-dependent density changes when examining post-treatment head and neck CT scans.

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