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Abstract: Aim: Although predictive factors (PF) for conventional lymphoma therapy are established and frequently used in clinical practice and medical research, the PF for radioimmunotherapy (RIT) have not been fully defined until now. The aim of this multicenter evaluation is to prove the feasibility of the multicenter web-based data collection and to preliminary explore imaging findings and prediction of therapy response in patients with follicular lymphoma (FL) following radioimmunotherapy (RIT) with 90Y-ibritumomab tiuxetan. Patients, methods: We retrospectively analyzed and correlated clinical and imaging data (CT and FDG-PET) before and after RIT as documented by the RIT-Network. Evaluation of treatment response was done on both patient and lesion basis. Every measurable lesion was analyzed in terms of standardized uptake value (SUV), volume (CT and PET) and response. PF were identified using a uni- and multivariate model. A web-based system was used for the documentation and evaluation of clinical and imaging data. Results: 16 patients with at least one PET before and after RIT were eligible for analysis. Concerning response three months postRIT, 5 patients achieved a CR, 6 patients a PR and 4 patients remained with NC. A total of 159
lesions were measured (mean 10±8). In the multivariate model the log lesion volume (p< 0.0001), the total (p = 0.03) and maximum lesion volume (p = 0.05) were predictors for response (CR + PR). Concerning the lesional CR initial small lesion volume (p = 0.009) and its high metabolic activity (p = 0.01) were identified as predictors. The web-based system showed no major disturbances allowing secure data transfer and central image interpretation in a reasonable time. Conclusion: The use of a web-based multicenter archiving system for clinical and imaging data is technically feasible in a multicenter setting and allows a central analysis. This preliminary analysis suggests that FDG-PET may predict the likelihood of response to RIT.