17

Comparison of nodal staging with lean body mass based and with total body weight based in lung cancer.

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Purpose: The standardized uptake value (SUV) is semiquantitative evaluation parameter in positron emission tomography (PET). But there is no consensus about the application or process of SUV measurement. In this study, we used measured lean body mass (LBM) and total weight for application in SUV measurement. Also we compared the each nodal staging with SUV between measured LBM and total weight, in non small cell lung cancer (NSCLC). **Methods:** Total 21 patients with lung cancer were enrolled (M:F=17:4, age 45[plusminus]8 years). PET-CT was done before operation with Gemini (Philips, Milpitas, U.S.). Each image was reconstructed twice with measured weight and lean body mass. Maximum SUVs of 103 dissected lymph nodes were measured and compared with histological result. For the deciding on the cut off value, receiver operating characteristic (ROC) analysis was done. **Results:** 14 lymph nodes in the 103 dissected lymph nodes were metastatic lesions. From the ROC analysis, the cut off value of SUV was 1.7 with measured LBM and 2.3 with total weight. With measured LBM, Sensitivity and specificity were 92.5%, 78.2% and area under curve was 0.881. With total weight, sensitivity and specificity was 92.5% and 77%, Area under curve was 0.859. **Conclusion:** The normalization of SUV could be done with measured LBM. With the normalization of SUV with LBM, the nodal staging of NSCLC using SUV could be more accurate than using total weight in the reconstruction and measurement of SUV for lymph node lesions.

18

High-dose radioimmunotherapy in refractory B-cell non-Hodgikin's lymphoma with I-131-labeled chimeric anti CD-20 C2B8 (I-131 rituximab): pilot trial

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Purpose: The native chimeric human-mouse anti CD-20 antibody IDEC-C2B8 (rituximab) is therapeutically applied in relapsed or refractory NHL. This ongoing pilot study was to evaluate whether high-dose radioimmunotherapy (RIT) with I-131 rituximab is therapeutically effective in refractory B-cell NHL. **Methods:** 5 patients (5 male, aged 50.89±16.89) with chemorefractory NHL of B-cell origin (2 diffuse large B cell, 1 burkitt's lymphoma, and 2 mantle cell lymphoma) oe, with a life expectancy of at least 3 months, and with a Karnofsky performance score of 60 and above were studied. The chimeric IgG1 anti CD 20 monoclonal antibody rituximab (mabthera, Roche) was radiolabelled with iodine-131 (I-131) using a modified chloramine T method with high radiochemical purity (95 %±0.9) and preservation of immunoreactivity. All patients received therapeutic loading doses of unlabelled rituximab (18.5 MBq/kg) immediately prior to administration of therapeutic dose (3.7 GBq-8.5 GBq), and then underwent gamma camera scan and pre-and post-RIT FDG PET (within 7 day and day 30). **Results:** Blood cell nadirs were reached at 2-3 weeks after therapy infusion, but all patients recovered at 6 weeks after treatment. Non hematologic toxicity was restricted to mild-to moderate nausea, fever, transient bilirubin, or liver enzyme elevation. Two (8.5 GBq) with mantle cell lymphoma and one with burkitt's lymphoma experienced good partial remissions, and one (5.5 GBq, DLBL) with bulky disease had a partial remission, and one patient (3.7 GBq, DLBL) with bulky disease had a mixed response. **Conclusion:** High-dose RIT with I-131 labelled rituximab seems to be effective and moderate toxicity. Further follow-up to monitor the long-term outcome are indicated.