

INTERNATIONAL SYMPOSIUM ON RADIOLOGY,
NUCLEAR MEDICINE, AND DIAGNOSTIC IMAGING

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¹⁸F-FDG PET/CT in Richter syndrome: preliminary analysis of a single-center cohort

Richter syndrome (RS) defines the transformation of the generally indolent chronic lymphocytic leukemia (CLL) into a more aggressive lymphoid tissue such as diffuse large B-cell lymphoma, Hodgkin's lymphoma, or prolymphocytic leukemia. We retrospectively evaluated the diagnostic contribution of ¹⁸F-FDG PET/CT in patients with suspected RS of CLL, based on visual assessment and Deauville score (DS). In our pilot analysis, we examined eight patients, seven male and one female, aged 66,4±8,8 y, with CLL, diagnosed 3months-21y earlier, who underwent ¹⁸F-FDG PET/CT between March 2023 and July 2025 due to B symptomatology or enlarged lymph node(s), and elevated lactate dehydrogenase levels. Six out of 8 patients had been previously treated with immuno/chemotherapy. Hypermetabolic foci of DS 4 or 5 in lymph nodes or extranodal sites (including liver, spleen, bone marrow, and/or other organs) were considered as ¹⁸F-FDG-positive for RS. Three out of eight patients were found to have hypermetabolic (DS 5 in two and 4 in one/3) lymph nodes with adjacent soft tissue/organ invasion in two and liver and spleen involvement in one, whereas the rest did not show hypermetabolic lesions indicative of RS. Visually positive ¹⁸F-FDG PET/CT findings coupled with a maximum standardized uptake value (SUVmax) range of 4.9-22.7, were histologically confirmed as RS. One patient with DS 5 in the Waldeyer ring was proven to suffer from aggressive CLL. The positive and negative predictive value of ¹⁸F-FDG PET/CT were 66.6% and 100%, respectively. In conclusion, our preliminary data indicate that visual assessment and DS score on ¹⁸F-FDG PET/CT rules out RS with a high negative predictive value and accurately indicates sites for biopsy.

Keywords

Chronic lymphocytic leukemia, Richter syndrome, ¹⁸F-FDG PET/CT

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Biography

Dr. Pipitsa N. Valsamaki, is a Nuclear Physician and Assistant Professor in the Nuclear Medicine Department of the Medical School of Democritus University of Thrace (DUTH) and the University Hospital of Alexandroupolis, Greece. She also teaches in postgraduate programs and supervises theses at DUTH and in cooperation with the National and Kapodistrian University of Athens. Her extensive clinical experience encompasses the entire diagnostic and theragnostic Nuclear Medicine spectrum, with expertise on the oncological nuclear medicine domain and corresponding authorial activity of >50 articles/chapters in domestic and international medical journals or textbooks, >90 congress presentations, and 17 national/international academic awards/distinctions. Dr. Valsamaki has engaged in distinguished research projects (>22) in collaboration with esteemed colleagues and current main focus on PET/CT protocols, including funded clinical trials. She is an Advisor of the International Medical Olympicus Association, Editorial Board Member (HJNM), and reviewer (e.g. EJNMMI, ANM, JCM, IJMS) of repute.