B-lymphoblastic lymphoma: a heartening diagnosis

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A 48-year-old woman without comorbidities was referred to our tertiary care centre with a newly diagnosed mediastinal mass. The patient initially presented with back pain, cough, dyspnoea, and weight loss, which had developed in the course of several weeks. CT scans revealed a large mediastinal mass with compression of the caval vein and an intracardiac formation located in the right atrium. Echocardiography showed impaired right ventricular function with normal left ventricular ejection fraction. In the subsequent cardiac 18F-FDG PET and MRI scans, extensive infiltration of the right atrial wall and the right ventricular myocardium as well as a reduced right ventricular ejection fraction (RVEF) (44.8%) were found. The intracardiac mass showed strong 18F-FDG uptake, suggesting tumorous formation rather than thrombus (Panel A: MRI scan and Panel B: PET-MRI overlay; arrows indicate tumour infiltration). CT-controlled transcutaneous diagnostic biopsy yielded the histopathological and immunophenotypical diagnosis of B-lymphoblastic lymphoma. We initiated chemotherapy in analogy to the German GMALL-B-ALL/NHL 2002 protocol, consisting of a prephase and six blocks of intensive methotrexate and cytarabine-based chemotherapy. CT staging after two cycles revealed substantial regression of the tumour. Evaluation at the end of treatment showed complete remission and restitutio ad integrum with normal cardiac function (RVEF 51.6%) and no intramural scarring as observed by 18F-FDG PET-MRI (Panel C: MRI scan and Panel D: PET-MRI overlay). We conclude that intensive chemotherapy is safe and curative even in the case of transmural cardiac lymphoma presentation. Despite extensive initial cardiac infiltration and rapid tumour regression, no mural defect was observed. We recommend close interdisciplinary assessment and extended cardiac imaging.

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