

## Images in Haematology

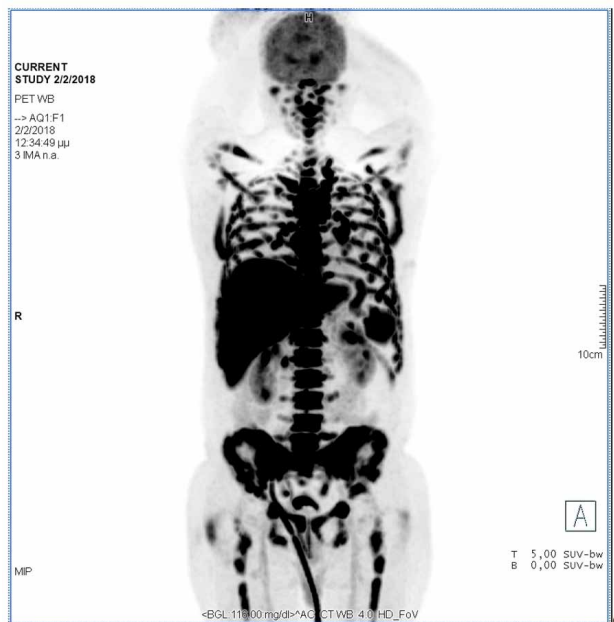
# A hot dark skeleton

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A 61-year-old male patient with a history of diffuse large B cell lymphoma (DLBCL) in complete remission for 4 years was treated in another hospital for *E. coli* pyelonephritis causing persistent high fever of 3-weeks duration. During the evaluation in the Hematology Clinic severe cytopenia plus high levels of uric acid and LDH were noted. The patient underwent a PET-CT scan.

What is the most probable diagnosis?



**Figure 1.**

This is a “superscan”, a term applied to skeletal scintigraphy whenever intense radiotracer uptake in axial skeleton and decreased uptake in soft tissues and kidneys is noted. The same image can be found in  $^{18}\text{F}$ -fluorodeoxyglucose (FDG) positron emission tomography (PET)/computed tomography (CT) in several conditions, mostly metastatic tumors of prostate, stomach and breast. It is also recorded whenever there is activation of the bone marrow by erythropoiesis- and colony-stimulating factors or in rebound activation after recent myelosuppressive chemotherapy. Persistent fever, either from infection or from other causes, may also provide a similar situation, probably due to interleukin-mediated upregulation of glucose transporters. Recently many PET/CT “superscan” cases have been reported in patients with hematological malignancies, i.e. non-Hodgkin lymphomas and acute lymphoblastic leukemia.

This particular patient had an overwhelming relapse of DLBCL, as a bone marrow biopsy showed heavy infiltration by lymphoma cells, as well as severe hemophagocytosis. The patient was treated with corticosteroids and chemotherapy but he never recovered and died 20 days after the PET/CT scan.

**Conflict of Interest:** None

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