

Special Article - Acute and Chronic Myeloid Leukemia

Acute Myeloid Leukemia Featuring Extramedullary Disease and Tetrasomy of Chromosome 8

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Clinical Image

A 29-year-old woman who was nine months post-partum presented with subacute back pain, left lower extremity numbness and weakness, fever and drenching night sweats. A computed tomography (CT) scan of the abdomen/pelvis revealed bilateral adnexal masses up to 11x8 cm. Follow-up PET/CT revealed additional FDG-avid masses (Figure 1). Her complete blood count revealed pancytopenia. CA-125, CA-19-9 and CEA laboratories were unremarkable. Her peripheral smear demonstrated blasts. Bone marrow biopsy confirmed a diagnosis of acute myeloid leukemia (AML) with monocytic differentiation. A49,X,-X,del(1)(q12),+8,+8,+20,+der(?)t(1;?)(q12;?) karyotype (Figure 2A) was observed in one of 20 metaphases. FISH analysis confirmed an abnormal population (22%) carrying both tetrasomy 8 and trisomy 20 in 22% of examined nuclei (Figure 2B). She achieved brief morphologic and cytogenetic remission with induction chemotherapy. Although she was consolidated with allogeneic hematopoietic stem cell transplantation, she unfortunately succumbed to her disease 112 days later.

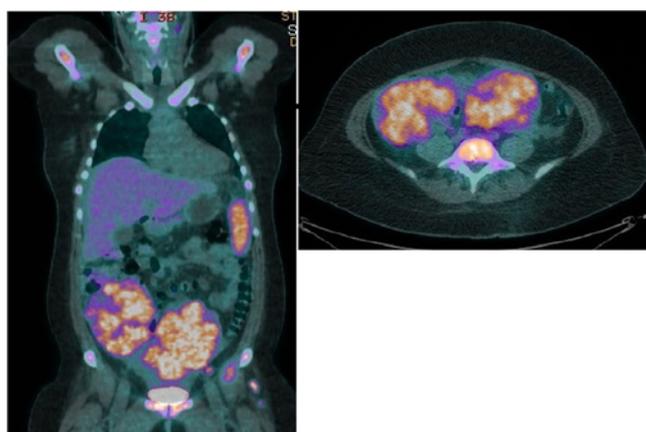


Figure 1: PET/CT with FDG-avid nodal, spleen, bone marrow, left adrenal, and intrathoracic and intrapelvic tissue.

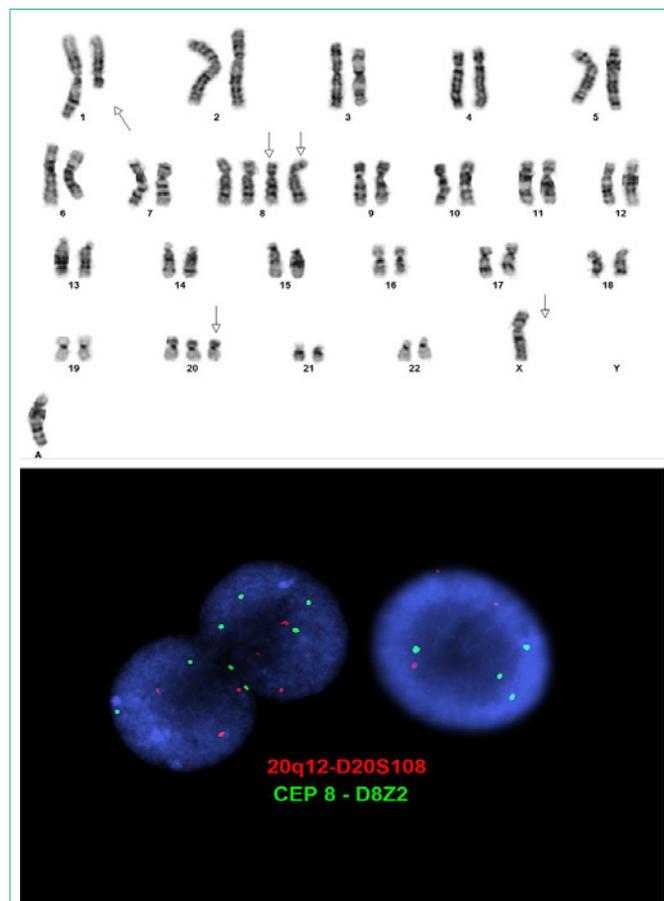


Figure 2A: Cytogenetics demonstrating 49,X,-X,del(1)(q12),+8,+8,+20,+der(?)t(1;?)(q12;?) karyotype.

Figure 2B: Fluorescence in situ hybridization (FISH) analysis confirming an abnormal population carrying tetrasomy 8 (green) and trisomy 20 (red) in 22% of nuclei examined.