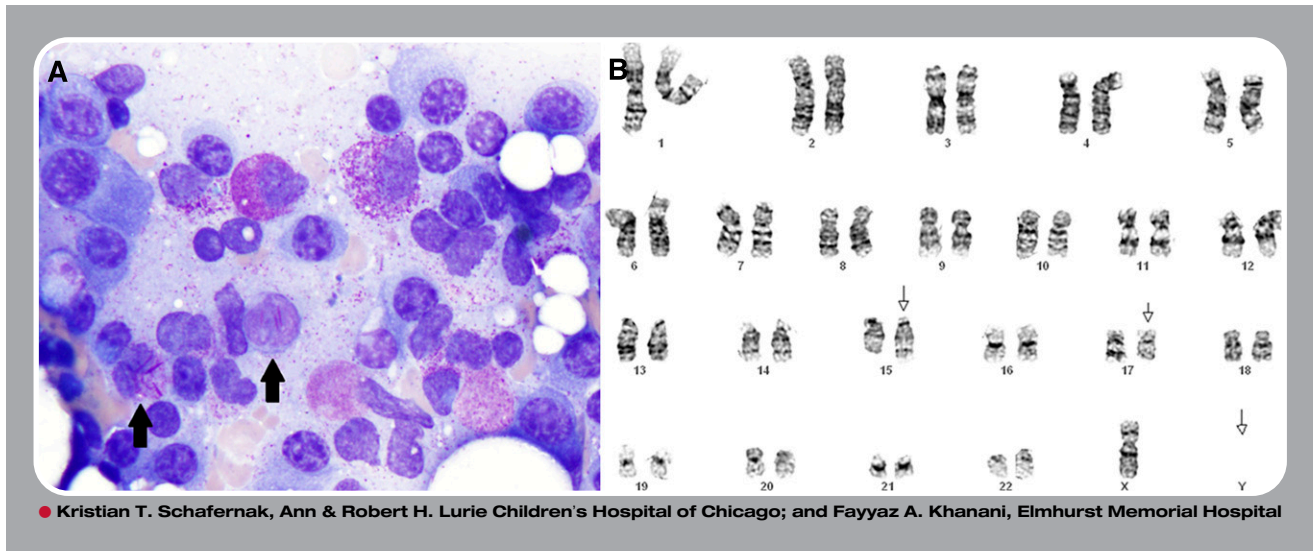


Simultaneous presentation of plasma cell myeloma and acute promyelocytic leukemia



A 93-year-old man presented with lower extremity pain, and during evaluation for possible deep vein thrombosis, he was found to be pancytopenic. Four years earlier, macrocytic anemia and an immunoglobulin G- κ (IgG- κ) monoclonal protein had been noted but the IgG level was only minimally elevated and the skeletal survey was negative. He subsequently developed thrombocytopenia and had been receiving monthly darbepoietin alfa but was lost to follow-up after the anemia had resolved. Bone marrow examination revealed 50% to 60% plasma cells and scattered cells containing hypergranular cytoplasm or multiple rod-shaped crystalline structures (panel A arrows). Conventional cytogenetic analysis demonstrated 45,X,-Y,t(15;17)(q24;q21)[13]/46,XY[7] (panel B).

Although the occurrence of myeloid neoplasms arising secondary to treatment of plasma cell myeloma is well known, to the best of our knowledge, this is the first reported case of simultaneous presentation of myeloma and acute promyelocytic leukemia (APL) in a patient with untreated monoclonal gammopathy of undetermined significance. An increasing number of therapy-related myelodysplastic syndromes and acute myeloid leukemia cases (including APL) are likely to be recognized as survivorship improves for myeloma. At the same time, one must also be aware that plasma cells can sometimes contain cytoplasmic needle-like immunoglobulin crystals closely resembling Auer rods and that they do not necessarily represent the faggot cells characteristic of APL.