EDTA-dependent lymphocyte clumping

A 79-year old man presented with chest pain and fatigue. He was found to have anemia (hemoglobin 8.8 g/dL) and leukocytosis (white blood cell count 244x10⁹/L) with a predominance of lymphocytes (94%). Flow cytometric study and fluorescence in situ hybridization analysis of the peripheral blood lymphocytes were consistent with a diagnosis of mantle cell lymphoma. A peripheral smear obtained from ethylene diamine tetra-acetic acid (EDTA) anticoagulated blood revealed clumping of the lymphocytes. This phenomenon did not occur when smears were made from fresh blood or blood anticoagulated with sodium citrate or heparin. Although platelet and red blood cell clumping with EDTA has been recognized often, clumping of lymphocytes with EDTA has rarely been reported. As in this case, the majority of the reported cases were patients with lymphoid malignancies.