66-year-old woman developed increasing fatigue over 6 months. Laboratory studies showed anemia (hemoglobin 10.2 g/dL), elevated serum immunoglobulin (Ig)M (1580 mg/dL), and IgM κ M-protein. Imaging studies showed an enlarged heart, thickening of the esophagus, and slightly enlarged mediastinal lymph nodes (1.4 cm) without fluorodeoxyglucose-avid skeletal lesions. Serum viscosity was not increased. Bone marrow biopsy showed extensive interstitial and vascular amyloid deposition (panels A-B) associated with a B-cell infiltrate. Congo-red stain showed apple-green birefringence within amyloid deposits (panel C). Aspirate smears showed a mixture of small lymphocytes, lymphoplasmacytoid lymphocytes, and plasma cells. Flow cytometry immunophenotypic studies showed both κ monoclonal B cells and κ monoclonal plasma cells (panels D and E, respectively). A diagnosis of lymphoplasmacytic lymphoma/Waldenström macroglobulinemia (WM) with systemic amyloidosis was made. Mutational studies were negative for MYD88 (L265P) and positive for CXCR4 (G335S). Liquid chromatography tandem mass spectrometry analysis on Congo-red positive microdissected areas in paraffin-embedded tissue confirmed amyloid light-chain (AL) (κ)-type. An abdominal fat pad biopsy was also positive for amyloid. The patient was started on rituximab, cyclophosphamide, and dexamethasone therapy.

This case highlights that systemic amyloidosis is an unusual presenting complication of WM. Amyloidosis in WM is rare (3%), is generally of the systemic AL type, and is associated with multiorgan involvement and high IgM levels.
Systemic AL amyloidosis associated with Waldenström macroglobulinemia: an unusual presenting complication

Beenu Thakral and Rashmi Kanagal-Shamanna