

[f12.25] This case demonstrates a typical case of lymphoplasmacytic lymphoma. The clinical history reveals a 79-year-old male with a history of anemia, renal insufficiency, hypercalcemia, free κ light chains, and IgM κ monoclonal proteins detected by serum immunofixation. The peripheral blood smear reveals an occasional small lymphocyte with plasmacytoid features **a**. The bone marrow aspirate smear reveals an intimate mixture of small round lymphocytes, plasmacytoid lymphocytes, and mature plasma cells **b**. The histologic section of the bone marrow clot section reveals a hypercellular marrow with apparently increased plasma cells with intermixed small lymphoid cells **c**. By flow cytometric analysis, there is an increase in cells within the lymphocyte region characterized by low side light scatter and high expression of CD45 (**d**, increase in red dots). These cells express CD19 (not demonstrated), CD20 **e**, variable CD23 (**f**, upper left box) without CD5 (**f**, lower right box, and **g**), and selective surface κ light chain (**h**, lower right box). Subsequent CD138 IHC stain of the bone marrow histologic section highlights the increased plasma cells **i**. CD20-IHC stain of the bone marrow histologic section highlights even more positive cells **j** than identified by flow cytometric analysis, possibly due to sampling or a hemodiluted bone marrow sample submitted for flow cytometric analysis. κ and λ ISH performed on the bone marrow histologic sections reveal selective expression of κ in the plasma cells and small lymphoid cells **k, l**. Conventional cytogenetic and FISH (myeloma panel) studies are normal. The diagnosis is made of lymphoplasmacytic lymphoma.

Concomitant CLL/SLL and plasma cell dyscrasia

Relatively rare cases of coexistent (or concomitant) CLL/SLL and plasma cell myeloma (PCM) (or plasma cell dyscrasia) occur and may be confused diagnostically with LPL. However, the morphology typically differs in that there are discrete nodules, or infiltrates, of CLL/SLL and a separate population of monoclonal plasma cells in CLL/SLL. Such a case is demonstrated in [f12.26], with listmode output available on the accompanying

disk. In contrast, as previously demonstrated in [f12.25], the characteristic morphology in LPL is a diffuse infiltrate, or nodules (in BM), composed of an intimate mixture of small, round lymphocytes, plasmacytoid lymphocytes, and mature plasma cells. "Pseudofollicles," as may be seen in CLL/SLL, are not seen. In addition, the immunophenotypic features of the small lymphocytes in LPL differ from those of CLL/SLL, in that the LPL small lymphocytes are CD5⁻ and usually CD23⁻.

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Mantle Cell Lymphoma with Monoclonal Plasma Cells

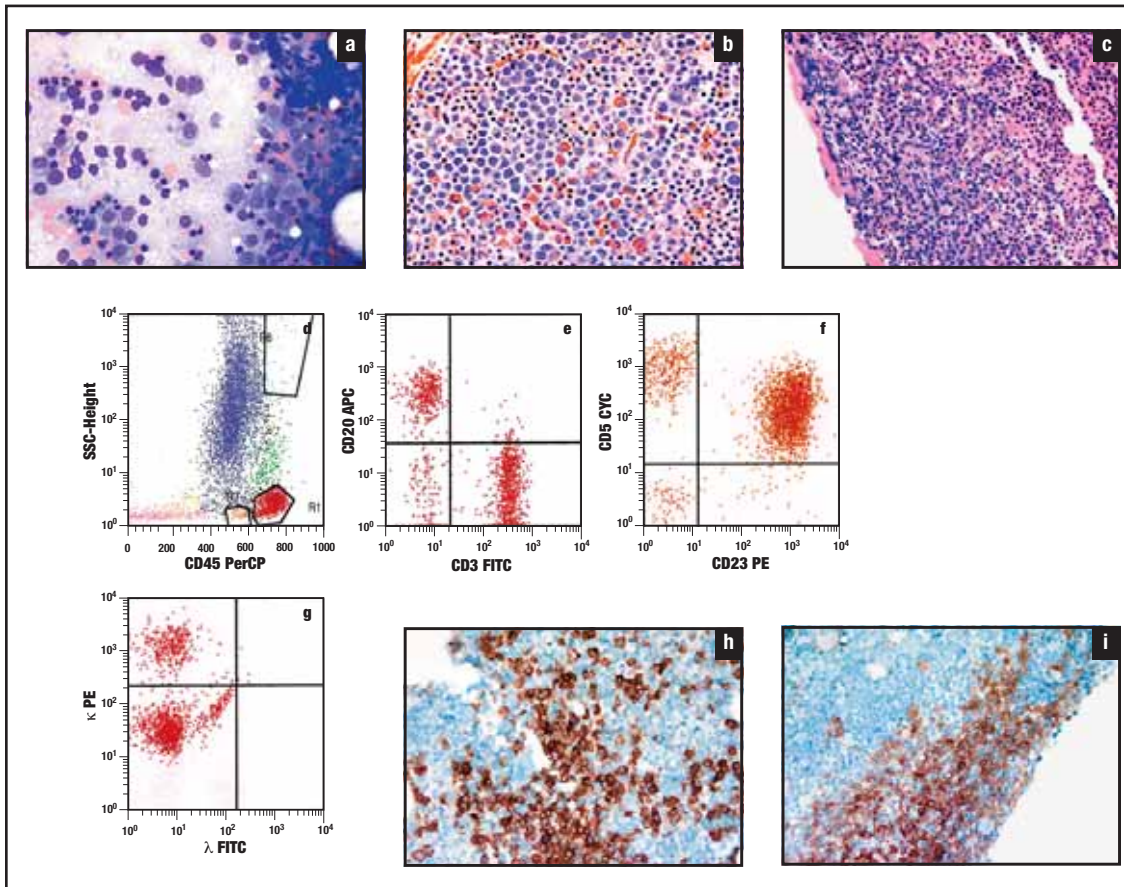
As previously discussed, occasional cases of MCL may demonstrate plasmacytic differentiation, causing diagnostic confusion with LPL. This differential diagnosis has been previously discussed above in the MCL section.

Follicular lymphoma with monoclonal plasma cells

Also as previously discussed, plasmacytic differentiation may occur in up to 9% of FL cases, causing diagnostic confusion with LPL. This differential diagnosis has been previously discussed above in the FL section.

“Lymphoid” or “small cell” variant of plasma cell myeloma

In general, LPL may be differentiated from PCM by the finding of a prominent population of monoclonal small B lymphocytes by FCI in LPL and a uniform population of monoclonal plasma cells in PCM. However, diagnostic confusion with the “small cell” or “lymphoid” morphological variant of PCM may occur due to the “lymphoid” morphology and CD20+, which are encountered in this variant. As discussed previously, the neoplastic cells of LPL include small lymphocytes, plasmacytoid lymphocytes, and plasma cells. The neoplastic cells of the “lymphoid” variant of PCM may show varying degrees of plasmacytic differentiation and are



[12.26] This case demonstrates a rare instance of coexistent CLL and plasma cell dyscrasia. The clinical history reveals a 30-year-old male with a history of B-cell non-Hodgkin lymphoma, with a good response to fludarabine, cytoxan, and rituximab. He currently has a prolonged, severe anemia, and thus a bone marrow examination is performed. The bone marrow aspirate reveals an increase in plasma cells **a**, which are also seen in the histologic section of the bone marrow clot section **b**. The histologic section of the bone marrow core biopsy also reveals an atypical lymphoid infiltrate (**c**, left side of image). By flow cytometric analysis, there is an increase in cells within the lymphocyte region characterized by low side light scatter and high expression of CD45 (**d**, increase in red dots). These cells express CD19 (not demonstrated), CD20 **e**, aberrant CD5 **f** with coexpression of CD20 (**e**, upper right box), with selective surface κ light chain (**g**, upper left box). The increase in plasma cells is confirmed by CD138-IHC staining of the bone marrow histologic section **h**. CD23-IHC stain of the bone marrow histologic section reveals intense expression in the atypical lymphoid infiltrate **i**. The diagnosis is made of coexistent CLL and plasma cell dyscrasia.