Collision of chronic lymphocytic leukemia/small lymphocytic lymphoma and melanoma

A 39-year-old man noted a pigmented lesion on his back that had been growing for ~1 year. A punch biopsy demonstrated malignant melanoma, nodular type. He was also found to have a white blood cell count of 45.8 $\times$ 10$^3$/μL and palpable axillary, cervical, and inguinal lymph nodes. The blood was sent for flow cytometry and demonstrated a population of small CD19$^+$ B cells that were light chain restricted, CD5$^-$, CD10$^-$, and CD23$^-$ consistent with chronic lymphocytic leukemia/small lymphocytic lymphoma (CLL/SLL). Surgical pathology received bilateral axillary contents and a wide excision of the melanoma on the back. The lymph nodes grossly demonstrated areas that were pink-tan and fish-fleshy and other areas that were darkly pigmented. Of the 84 lymph nodes that were microscopically evaluated, 43 were involved by melanoma, and all were involved by CLL/SLL.

This case demonstrates an unusual circumstance of 2 primary malignancies present in the same specimen. Interestingly, $BRAF$ mutations have been reported in both malignancies. Testing for $BRAF$ mutations was performed on the punch biopsy and a bone marrow biopsy involved by CLL/SLL. The punch biopsy demonstrated a V600K $BRAF$ mutation; however, a $BRAF$ mutation was not detected in the bone marrow biopsy.
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Julie C. Dueber and Cheryl M. Coffin