Lymphatic-type Angiosarcoma Rich in Plasma Cells

In Reply:

In response to the description by Martinez et al[1] of a "Lymphatic-type "angiosarcoma" with prominent lymphocytic infiltrate" in the *American Journal of Surgical Pathology*, we would like to share a case that most likely falls within the remit of this entity.

We described a so-called "plasma cell-rich lymphangiosarcoma" in a 79-year-old female in 2011.[2] The lesion involved the temporal region of the face and adjacent scalp, which showed evidence of sun damage. The lesion was composed of a solid, sheet-like proliferation of large epithelioid cells (Fig. 1A). In areas the tumor cells were dyscohesive, imparting cleft-like spaces within the main tumor mass (Fig. 1B). The individual tumor cells had abundant eosinophilic cytoplasm, contained moderately pleomorphic nuclei and had a "hobnail" appearance focally (Fig. 1C). Up to 2 mitoses per 50 HPFs were counted. The striking and pervasive histologic feature was the intratumoral and peritumoral inflammatory accompaniment. Both lymphocytes and, predominantly, plasma cells were present intimately admixed within tumor cells as

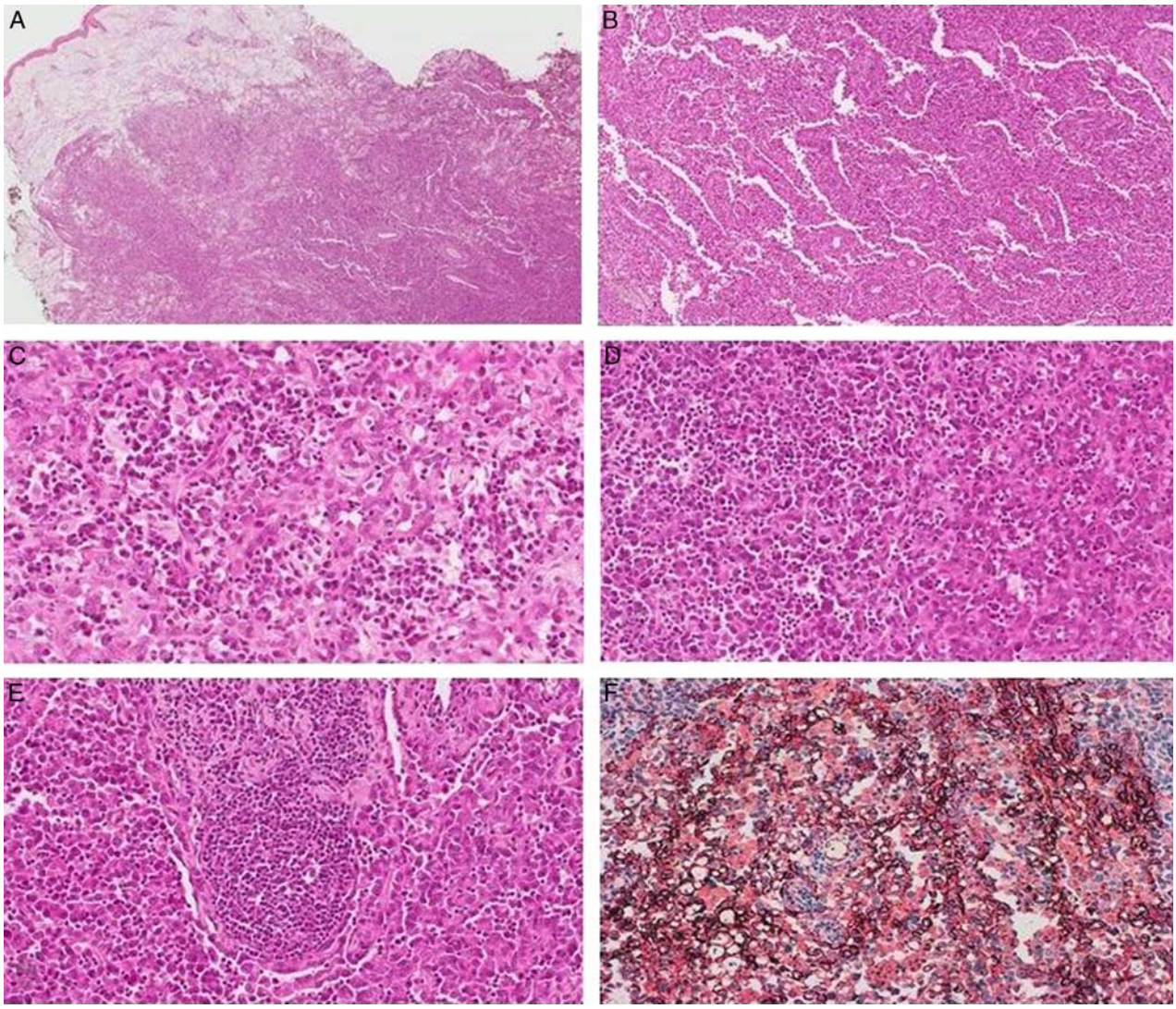

FIGURE 1. The lesion was a mid to deep dermal solid tumor (A) with focal dyscohesive areas creating artifactual spaces (B). Tumor cells and inflammatory cells (plasma cells and lymphocytes) were intimately admixed. Individual tumor cells were large, epithelioid with abundant eosinophilic cytoplasm, moderately pleomorphic nuclei with irregular nuclear contours. These cells lined small channels (C). The inflammatory infiltrate consisted of lymphocytes, organized into small aggregates (D) and predominantly of plasma cell collections which were so dense in some areas that they obscured the tumor cells (E). The tumor cells displayed strong lymphatic vessel endothelial hyaluronan receptor 1 membrane positivity focally (F).

well as in a peritumoral locale. The inflammatory component was also present around normal vessels, the lymphocytes were organized into lymphoid aggregates in areas (Fig. 1D), and the plasma cells were present as large clusters and sheets (Fig. 1E). The lymphocytes were both CD3 and CD20 positive and, the plasma cells were polytypic.[2] The tumor cells were positive for CD31, CD34, factor VIII-related antigen, podoplanin (D2-40), and lymphatic vessel endothelial hyaluronan receptor 1 (Fig. 1F). The patient developed local recurrences despite postexcisional radiotherapy but did not develop metastasis. She died 2 years after the initial diagnosis of causes unrelated to the tumor.[2]

We believe the case we describe conforms morphologically and biologically to the "high-grade" variety of lymphatic-type angiosarcoma described by Martinez et al.[1] However, the striking difference we observed is the predominance of plasma cells over lymphocytes in close association with the tumor. The plasma cell infiltrate was so intense and pervasive that in areas it masked the actual tumor cells.

We concur with the observations of Martinez et al[1] that angiosarcoma with lymphatic differentiation is better terminology than lymphangiosarcoma and, the behavior is less aggressive than conventional angiosarcoma. We wish to extend the morphologic spectrum of this particular variant of angiosarcoma to include a plasma cell-rich variant of lymphatic-type angiosarcoma.

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Conflicts of Interest and Source of Funding: The authors have disclosed that they have no significant relationships with, or financial interest in, any commercial companies pertaining to this article.

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