Lymph nodes

Reason/Evidentiary Support:
If lymph nodes are NOT received, this element should not be reported. If lymph nodes are submitted, the following must be recorded:

- The number of sentinel nodes examined,
- The number of positive sentinel nodes,
- The total number of nodes examined (sentinel and non-sentinel), and
- The total number of positive nodes examined (sentinel and non-sentinel).

Any additional relevant microscopic comments should be recorded. Tumor-harboring status of the SLN is the strongest predictor of outcome for clinically localized primary cutaneous melanoma patients. There are a number of potential pitfalls in the microscopic examination of SLNs. The most common diagnostic problem is distinguishing nodal nevus cells from a melanoma metastasis. This can usually be resolved by careful assessment of the location, morphologic features, and immunohistochemical staining characteristics of the cells and, in some instances, comparing the cytology of the nodal melanocytes with the cells of the primary invasive melanoma. Nodal nevi are usually located in the fibrous capsule and trabeculae of lymph nodes (but may rarely occur within the nodal parenchyma) and consist of small cytologically bland cells that are devoid of mitotic activity and, on immunohistochemistry, show strong diffuse positivity for S-100 and Melan-A, minimal staining for HMB-45, and a low (<2%) Ki-67 proliferative index. In contrast, melanoma deposits in SLNs are typically located in the subcapsular sinus or parenchyma and often comprise large, cytologically atypical cells with variably prominent nucleoli, mitotic activity, HMB-45 positivity, and Ki-67 positivity (variable but usually >2%). Other cells that may be found within lymph nodes and that are positive for S-100 include interdigitating (antigenpresenting dendritic) cells, nerves, and, occasionally, macrophages. These can usually be distinguished from melanoma cells on the basis of their location, size, shape, nuclear and cytoplasmic characteristics, distribution within the node, and immunohistochemical profile. Positive Melan-A/MART-1 staining of small numbers of cells in the intraparenchymal portion of lymph nodes from patients without a history of melanoma has been reported, and in our view caution should be exercised to not overinterpret isolated Melan-A/MART-1-positive (or HMB-45-positive) cells in SLNs as melanoma in the absence of other corroborative evidence (such as cytologic atypia, mitotic activity, or immunohistochemical positivity for HMB-45 and an increased high Ki-67/MIB-1 index). In our experience, the occurrence of such cells has become a more frequent diagnostic problem in recent years, presumably reflecting the utilization of more sensitive antibodies and immunohistochemical techniques. These cells could represent nevus cells, macrophages passively carrying melanoma-associated antigens, or some other cell type carrying antigens that cross-react with Melan-A/MART-1. Similarly, weak positive staining for HMB-45 is sometimes observed in pigment-laden macrophages.

References:
