

Incidental Nodal Nevus in the Sentinel Lymph Node of a Melanoma Patient

Dear Editor,

Sentinel lymph node biopsy (SLNB) is crucial for melanoma staging, but the presence of nodal nevi (NN) can complicate diagnosis by mimicking metastatic melanoma. Misclassification occurs in over 10% of cases, potentially leading to overtreatment [1]. We present a case of a 53-year-old woman with superficial spreading melanoma (SSM), where SLNB revealed a capsular NN without metastasis.

A 53-year-old female patient was referred to our department with an atypical nevus on her right calf. Following its excision, histological analysis confirmed the diagnosis of SSM with a Breslow thickness of 1.80 mm, classified as stage pT2a. The tumor exhibited three mitoses per mm², no evidence of lymphovascular invasion, and a mild chronic inflammatory infiltrate at its base.

According to current recommendations, a re-excision of the postoperative scar with SLNB was performed. Histological analysis found no metastases in the scar tissue or the sentinel lymph node (SLN). However, a small, capsular NN was identified within the SLN (Figure 1).

Benign melanocytic nevus cell aggregates, commonly referred to as NN, are typically found within the capsule or trabeculae of lymph nodes, as seen in our patient [2]. The origin of NN cells is debated, with

two main theories: embryological migration from the neuroectoderm or lymphatic migration from cutaneous nevi. Recent study findings, particularly the intracapsular location of nevus cells and their higher prevalence in melanoma patients than in breast cancer patients, support the hypothesis that these cells migrate via lymphatic routes rather than being remnants of embryonic development [3].

When NN appear in SLNs, which is estimated to be the case in 1% to 11% of SLNBs, they may present significant diagnostic challenges in melanoma patients [4].

Typically, NN are small, triangular, and lack cytonuclear atypia and mitotic activity, distinguishing them from metastatic melanoma, which is usually found in the parenchyma. However, when nevi extend into the parenchyma or paratrabeular areas, they can mimic metastases, making the differential diagnosis challenging, especially for small melanoma metastases with nevoid morphology [1]. A specialized review of SLNB samples initially classified as melanoma-positive revealed that over 10% were misdiagnosed cases of NN [1]. This diagnostic ambiguity between NN and true SLN metastases carries serious implications, as misclassification can lead to either overtreatment or undertreatment of the patient.

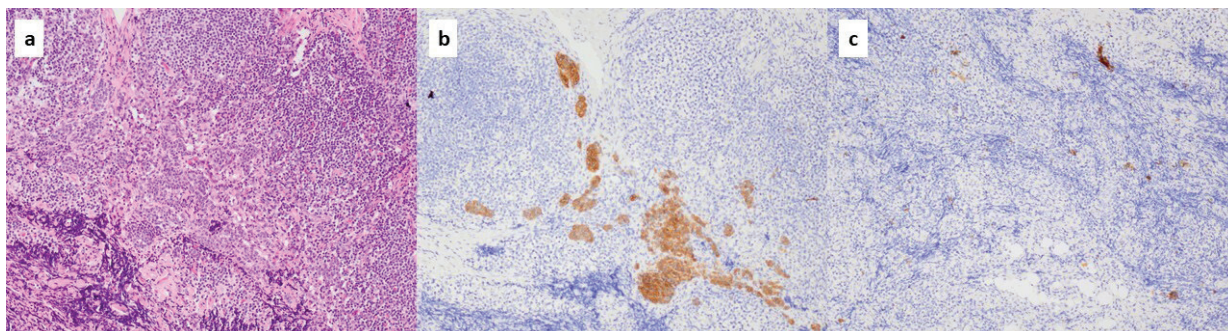


Figure 1. (a) Histological image of a nodal nevus (hematoxylin-eosin; 100x). Clusters and nests of typical nevus cells are observed in the capsule and partially in the connective septa. (b) Positive Melan-A staining of the same nevus (x200). (c) Negative HMB-45 staining (x200).

On the other hand, the updated EORTC protocol demonstrated a high incidence of NN in SLNBs and identified a strong association between NN and nevus-associated melanoma [4]. Furthermore, Kretschmer *et al.* demonstrated that SLN-negative melanoma patients with NN exhibited a slightly lower survival rate, while SLN-positive melanoma patients who had both NN and melanoma metastases showed a marginally better prognosis compared to those with metastases alone. However, these differences in survival were not statistically significant [2].

This case highlights the diagnostic challenge of NN in SLNBs for melanoma. While NN can mimic metastases, accurate histopathological evaluation is crucial to prevent overtreatment. Our patient's case, along with existing research, supports the need for careful differentiation between NN and true metastases to ensure appropriate clinical management.

References

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