Desmoplastic Spitz nevus

Vladimír Bartoš

Martin’s Biopsy Center, Ltd., Martin, Slovakia

Corresponding author: Dr. Vladimír Bartoš, PhD., E-mail: vladim.bartos@gmail.com

INTRODUCTION

Desmoplastic Spitz nevus (DSN) is an uncommon variant of melanocytic nevus characterized by dermal proliferation of large epithelioid or fusiform melanocytes in a sclerotic stroma [1-5]. It occurs more frequently on the limbs of young adults, predominantly females, in the third decade of life [1-4]. Compared to the classical variants of melanocytic Spitz nevi [6], DSN exhibits some distinct microscopic features, such as the lack of dermoepidermal activity, the absence of Kamino bodies, the presence of ganglion-like epithelioid cells, and increased collagen bundles in the dermis [1-5]. From a practical point of view, DSN is particularly important as it may be confused with a desmoplastic melanoma [1-5]. Therefore, in routine biopsy practice, such cases may be diagnostically challenging. Herein, a case of a patient with DSN is described from a pathologist’s perspective.

CASE REPORT

A 54-year-old male was found to have a cutaneous tumor lesion arising from the left arm. Grossly, it appeared as a light-brown, well-circumscribed, elevated nodule 6 mm in size. The presumptive clinical diagnosis was a benign skin tumor. Total surgical extirpation was done. Histology revealed an intradermal proliferation of somewhat pleomorphic, epithelioid, spindled melanocytes in a background of desmoplastic stroma. A perineural invasion of tumor cells was found. Proliferative and mitotic rates were minimal. The tumor was diffusely positive for S-100 protein, PNL-2, and SOX-10, and only occasionally reactive for melan-A and HMB-45. The final diagnosis of DSN was established. Although DSN is a completely benign tumor, it may result in diagnostic pitfalls. Due to its unusual histopathological features, it may be confused with a malignant desmoplastic melanoma. A knowledge of the clinicopathological differences between the two prognostically distinct skin tumor entities is essential for a differential diagnosis.

Key words: Desmoplastic Spitz nevus; Desmoplastic malignant melanoma; Perineural invasion
reactive for melan-A and HMB-45 (Fig. 5) in the superficial part of the lesion. Based on histomorphology and the immunophenotype, the final diagnosis of desmoplastic Spitz nevus was established. Resection margins were free of the tumor.

**DISCUSSION**

DSN may be a problematic diagnosis in biopsy practice. As already mentioned, it consists of somewhat pleomorphic, epithelioid, spindle-shaped melanocytes distributed among thickened, keloidal-appearing collagen fibers in the dermis [1-5]. Due to the atypia of the cells, stromal desmoplasia, and occasional neurotropism, it may be mistaken for a desmoplastic malignant melanoma (DMM) and atypical fibrous histiocytoma [1-5,7]. Because atypical fibrous histiocytoma is a benign mesenchymal tumor exhibiting a completely different
immunoprofile [7], a strict distinction between DSN and DMM is much more important, as the former represents a benign melanocytic lesion, while the latter is an aggressive malignancy with a poor prognosis. Accurate diagnosis of DSN requires an experienced pathologist who will take into account a combination of clinical, microarchitectural, cytological, and immunohistochemical findings. The main clinicopathological differences between DSN and DMM are summarized in Table 1 [1-5,8].

In our patient, the findings were typical of DSN. Of note was an interesting feature: an apparent perineural spreading of the tumor cells in the deep dermis. This, at first glance worrisome, histopathological finding is generally uncommon in benign tumors. Nevertheless, in accordance with our observation, some authors [9] have even described it in benign melanocytic nevi. For this reason, it may not necessarily be considered an attribute of malignancy in atypical melanocytic lesions. In any case, this is an adverse prognostic parameter that indicates a higher risk of local recurrence.

**CONCLUSION**

Desmoplastic Spitz nevus is rarely encountered in dermatological practice. Although a completely benign tumor, it may result in diagnostic pitfalls. Due to its unusual histopathological features, it may be confused with a desmoplastic malignant melanoma. A knowledge of the clinicopathological differences between the two prognostically distinct skin tumor entities is essential for a differential diagnosis.

**Consent**

The examination of the patient was conducted according to the principles of the Declaration of Helsinki.

**REFERENCES**