

**Case Report**

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# A Case of Compound Nevus with Intradermal Pseudoglandular Features: A Rare Variant and Possible Pitfall

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Melanocytic nevi · Nevus · Glandular structures · Tubular differentiation · Pseudo-acinar structures

**Abstract**

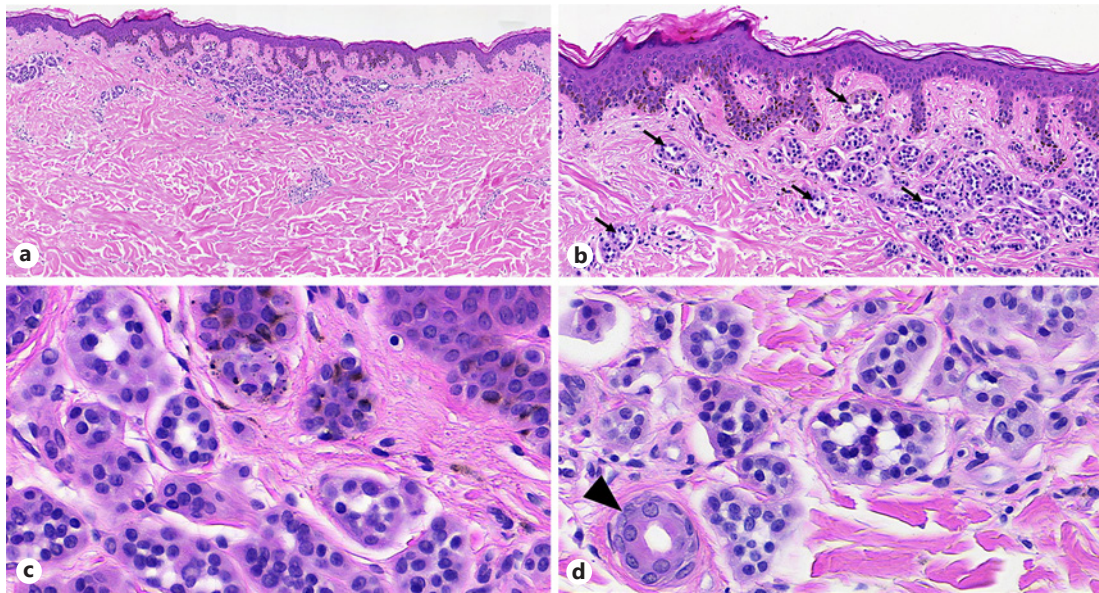
Melanocytic nevi are frequent cutaneous lesions with a large variation of morphological features, including pseudoglandular formation, which has rarely been described in the literature and remains of uncertain biological and clinical significance. We report a case of benign compound melanocytic nevus, with a dermal component showing an epithelioid proliferation arranged in small nests with central lumen-like structures mimicking glands. Immunohistochemical staining was necessary to determine the exact nature of the proliferation, since the tubular differentiation can be seen in benign and malignant epithelial neoplasms and has to be clearly identified to avoid misdiagnosis.

© 2019 The Author(s)  
Published by S. Karger AG, Basel**Introduction**

Melanocytic nevi can display multiple morphologies, representing a family of lesions. The melanocytes of the dermal component may show epithelioid, lymphocytoid or neuroid appearance but also many other histopathological variations (see below) and therefore it can sometimes be difficult to define the exact nature of the proliferation, which can be confusing.

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**Fig. 1.** Intradermal proliferation of epithelioid cells (**a**,  $\times 10$ ) forming glandular structures (**b**,  $\times 20$ , arrows). At high magnification, the cells are regular with small hyperchromatic nuclei and amphophilic cytoplasm (**c**,  $\times 40$ ). The arrowhead (**d**,  $\times 40$ ) shows an entrapped sweat gland with round nuclei and finely granular chromatin, eosinophilic cytoplasm, and some flat myoepithelial cells around.

### Case Report

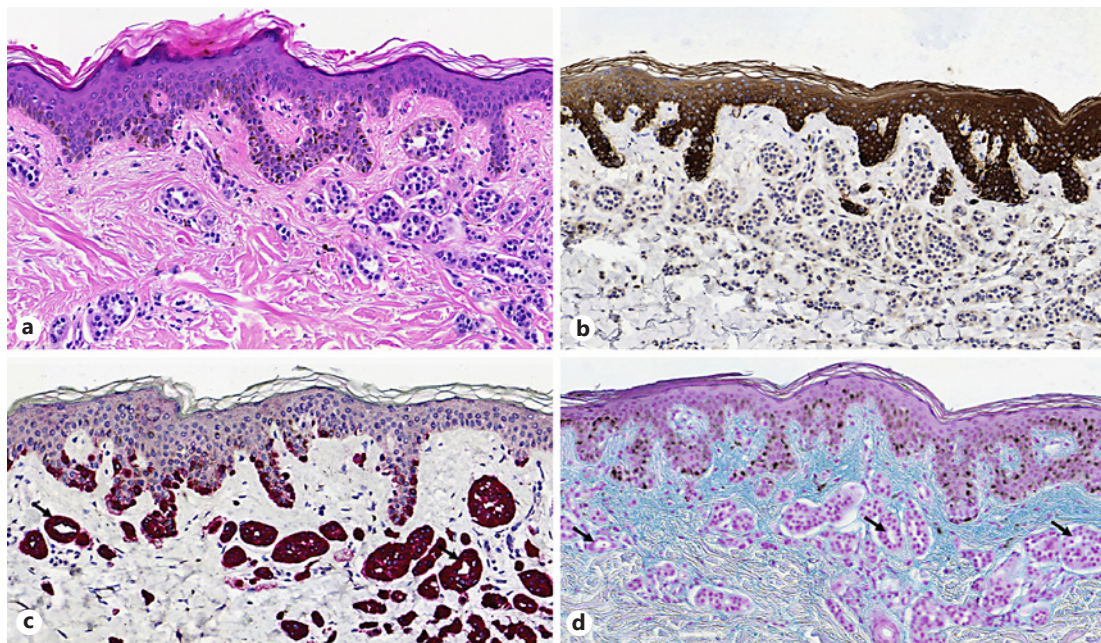
We report the case of a 48-year-old Caucasian male who presented with an irregular nevus on the lower back. On examination, a 3-mm brown macule was noted. The lesion was punch-excised.

The histological examination revealed a junctional and dermal melanocytic proliferation. The basal epidermal layer was pigmented, with a few junctional nests showing dusty intracytoplasmic melanin pigment. The dermal component showed regular nests of epithelioid cells with central lumen-like structures, reminiscent of ducts and acini (Fig. 1). The cells had bland morphology, with round and regular nuclei and amphophilic cytoplasm. There were no prominent nuclei but few pieces of evidence of differentiation, as all the cells presented the same epithelioid morphology. High-power examination did not show mitotic figures.

Immunohistochemically, the glandular structures were negative for pan-cytokeratin, whereas adnexal glandular structures and the epidermis were strongly stained. Colloidal iron did not show any presence of mucin inside the central lumen-like spaces. We performed a melanoma antigen recognized by T-cells 1 (MART-1/Melan-A) immunostain, which confirmed the melanocytic origin of the pseudoglandular structures (Fig. 2).

### Discussion

The glandular feature of dermal nevi has not often been described in the literature and remains of uncertain clinical significance. Histopathological variations in melanocytic morphology include several patterns such as balloon cell formation, pseudoangiomatous change, lipomatous change, osseous metaplasia, neurotization, cartilaginous nevus, calcification, psammoma body formation, amyloid deposition, eczematous and granular cell changes



**Fig. 2.** The pseudoglandular epithelioid proliferation (**a**,  $\times 10$ , HE) does not express pan-cytokeratin, whereas the epidermis is strongly stained (**b**,  $\times 10$ , pan-cytokeratin). The MART-1/Melan-A stains the melanocytes located at the dermal-epidermal junction, thus confirming a junctional component to the nevus, as well as the dermal epithelioid proliferation, including the pseudo-acinar structures (**c**,  $\times 10$ , arrows, MART-1/Melan-A). Colloidal iron stains in light blue the usual mucin deposits in superficial dermis, whereas the lumens of the pseudoglandular structures are negative (**d**,  $\times 10$ , arrows, colloidal iron).

[1, 2]. Pseudogland formation has been reported within Spitz nevi, sometimes containing mucin [3] and in melanoma [4]. Tubule and pseudoacini patterns similar to our case have rarely been described [5, 6]. These variants should be recognized to avoid misdiagnosis. The regular-shaped pseudoglands can mimic adnexal glands, as we can see in Figure 1. In our case, the melanocytes had slightly smaller and hyperchromatic nuclei compared to the appendage cells. Moreover, the real sweat gland owns a layer of flat myoepithelial cells and a basal membrane, which we do not find around the melanocytic nests. However, an intradermal glandular proliferation should always raise the suspicion of an unusual melanocytic neoplasm, a possible metastatic adenocarcinoma or an adnexal neoplasm. Thus, immunohistochemical stains remain necessary to clearly identify and reveal the nature and extension of the proliferation.

The pathophysiology itself of the pseudoglandular pattern in the dermal component of a melanocytic nevus is unknown but include a variety of hypothesis. Melanocytes are not capable of forming true glands [3]. The pseudo-lumen could appear by central melanocyte apoptosis [7] or by secretion of autocrine or paracrine factor [3]. Ziemer et al. [7] suggested that it could also result from artifactual retraction of tissue, secondary to fixation in formalin.

We believe that our case represents a rare benign variant of a compound melanocytic nevus.

### Statements of Ethics

This publication has been conducted in accordance with the World Medical Association Declaration of Helsinki.



### Disclosure Statement

The authors have no conflicts of interest to declare.

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