Letter to the Editor

Melanocytes in the Lumen of a Dermal Lymphatic Vessel in a Compound Melanocytic Nevus Associated With Genital Lichen Sclerosus

TO THE EDITOR

A 28-year-old man underwent circumcision for phimosis. The skin specimen was fixed in 10% buffered formalin, paraffin embedded and stained with Hematoxylin & Eosin.

Histopathological features were characterized by mild acanthosis, slight hyperkeratosis, vacuolar degeneration of basal keratinocytes with a sparse band-like chronic inflammation of the superficial dermis. Sclerosing inflammation was observed in some fields, and severe superficial oedema in other areas. In addition, a compound melanocytic proliferation was observed. The lesion was symmetric and well demarcated at the lateral margins. The junctional component was composed by epithelioid melanocytes arranged in nests with retraction artifacts. The dermal component showed highly pigmented, round to oval melanocytes with clear-cut maturation, surrounded by dense fibrosis (Figure 1). Neither nuclear atypia of melanocytes nor dermal mitoses were seen. We observed also the presence of melanocytes around dermal blood vessels in a "coat-sleeve" pattern, and a single nest of benign-looking melanocytes in the lumen of an ectatic lymphatic vessel as well as the morphological findings suggesting Lichen sclerosus such as atrophy in the stratum malpighii of epidermis, superficial marked edema and mild inflammatory cells infiltrate in the dermis (Figures 2 and 3).

Melanocytic lesions of the genital area are rare [1]. Nevertheless they show the same histopathological features as in any other body site. In the foreskin the dermis commonly shows numerous vascular spaces of various sizes, and in lichen sclerosus dermal vessels, especially those located in the papillary dermis, beneath the epidermis, may be dilated to some extent.

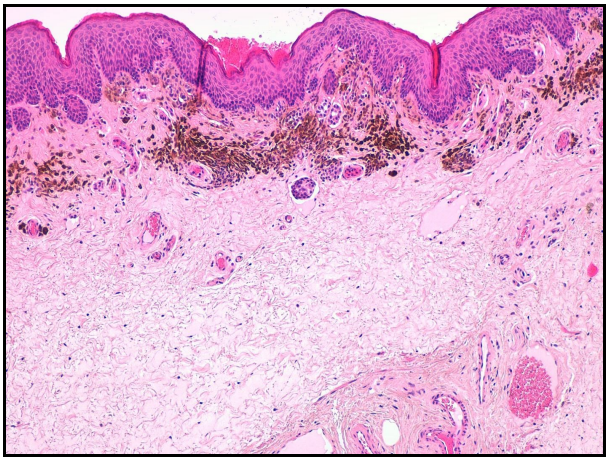

Figure 1. Symmetric and well demarcated compound melanocytic proliferation (Haematoxylin & Eosin, original magnification x100).

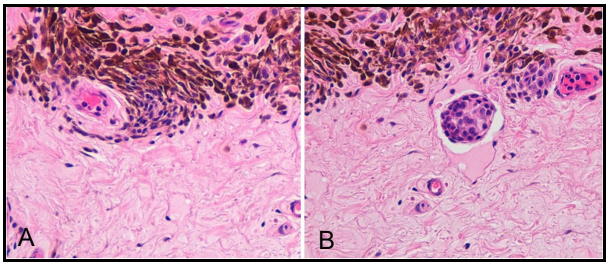

Figure 2. A) Melanocytes arranged around dermal blood vessels in a "coat-sleeve" pattern; B) a nest of benign-looking melanocytic cells is observed into the lumen of a dilated lymphatic vessel (Haematoxylin & Eosin, original magnification x400).

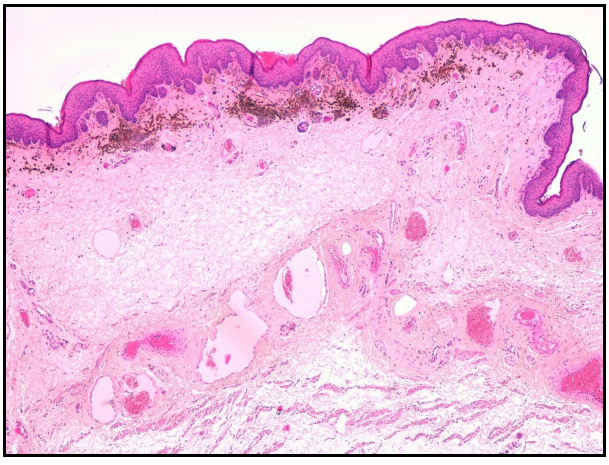

Figure 3. Atrophy of stratum malpighii, superficial edema, and inflammatory infiltrate in a patient underwent circumcision for phimosis (Haematoxylin & Eosin, original magnification x50).

Lymphatic capillaries lack pericytes or mural cells surrounding the endothelial lining, and the basement membrane may be absent or discontinuous. At ultrastructural level, the lymph capillaries show a very thin and indented wall with protrusions towards the vessels lumen or the interstitium. The connections between adjacent endothelial cells are different and variously shaped. Sometimes the overlap between endothelial cells determines intraparietal channels in communications with the interstitium and the vessel lumen [2].

There is increasing evidence that inflammatory cells have an important role in pathological angiogenesis and lymphangiogenesis [3]. There are experimental evidences supporting that lymphatic endothelial cells may secrete chemotactic agents which attract melanoma cells and promote lymphatic invasion [4].

Since in this specimen we observed many dilated vessels, we may hypothesize that the nevus cells have been attracted by lymphatic endothelial cells following inflammatory stimuli; in this way they moved towards the lymphatic vessels in order to lean and to adhere forming a sort of "coat-sleeve" around the same vessels, and subsequently entered into the lymphatic vessels across an intraparietal channel.

Nevus cell aggregates with features similar to those of cutaneous nevi can be found associated with lymph nodes [5, 6]. The overall frequency of nevus cell aggregates in lymph nodes is highly variable, ranging from 0.3% to 7.3% in lymph nodes removed for non-melanoma cancers to as much as 22% in melanomas. Nevus cell aggregates are mostly described in the subcapsular sinuses and sometimes in the lymph node capsule.

The presence of benign melanocytes in the subcapsular sinuses of lymph nodes, associated to the finding of benign nevus cells in a lymphatic vessel of a benign compound melanocytic nevus add evidence to the hypothesis of "benign metastasis" for circulating melanocytes.

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