Benign Melanocytic Tumors

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Abbreviations

HES Hematoxylin-eosin-saffron stain
IVCM In vivo reflectance confocal microscopy

Benign melanocytic lesions are represented by nevi. The clinical aspect of nevi is variable: pigmented or unpigmented, and flat or raised. They are classified into junctional, dermal, and compound according to the location of the melanocyte proliferation, respectively, purely intraepidermal, purely intradermal, and mixed (intraepidermal and intradermal).

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8.1 Junctional Melanocytic Nevus

Nevi are generally junctional in childhood, and then evolve into compound and later dermal type. Junction activity decreases with age.

The clinical aspect (Fig. 8.1) of this junctional nevus is a brown macule of the free margin of the lower eyelid.

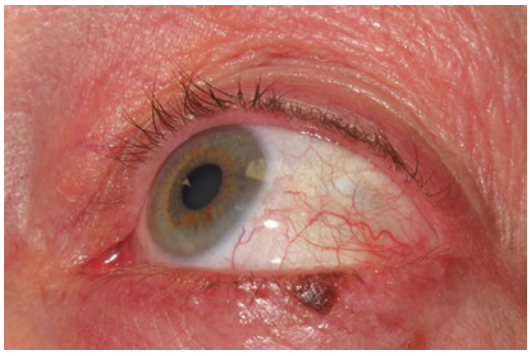

Fig. 8.1 Clinical aspect of junctional nevus

The IVCM features are as follows (Fig. 8.2a–d):

- Normal epidermis with regular honeycomb pattern (*red stars*)
- Round and regular hyperreflective homogeneous, roundish cells organized in nests at the dermo-epidermal junction (*yellow stars*) without atypical cells
- No pagetoid cells

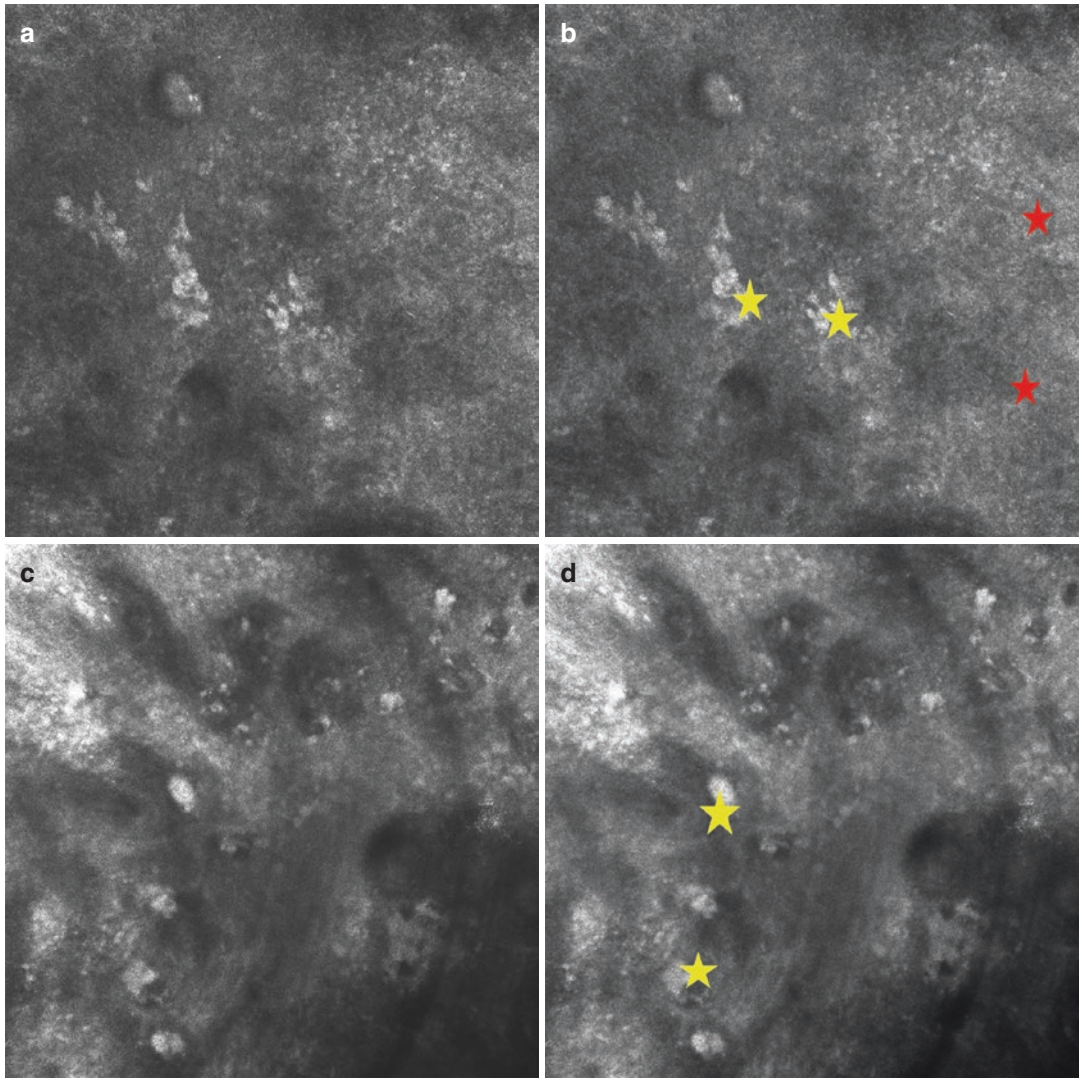

Fig. 8.2 IVCM features of junctional nevus (**a**–**d**)

On optical microscopy the histologic features are as follows (Fig. 8.3g–h):

- At low magnification (e, f), the lesion is composed of an exclusively intraepidermal melanocytic proliferation (*yellow stars*), above the basement membrane. There is no dermis component (*green diamonds*).
- At high magnification (g, h), melanocytes are arranged in nests (*blue stars*) at the tips of the rete ridges and have a lentiginous arrangement (*white circle*). The cells are small and epithelioid with pale and achromic cytoplasm.

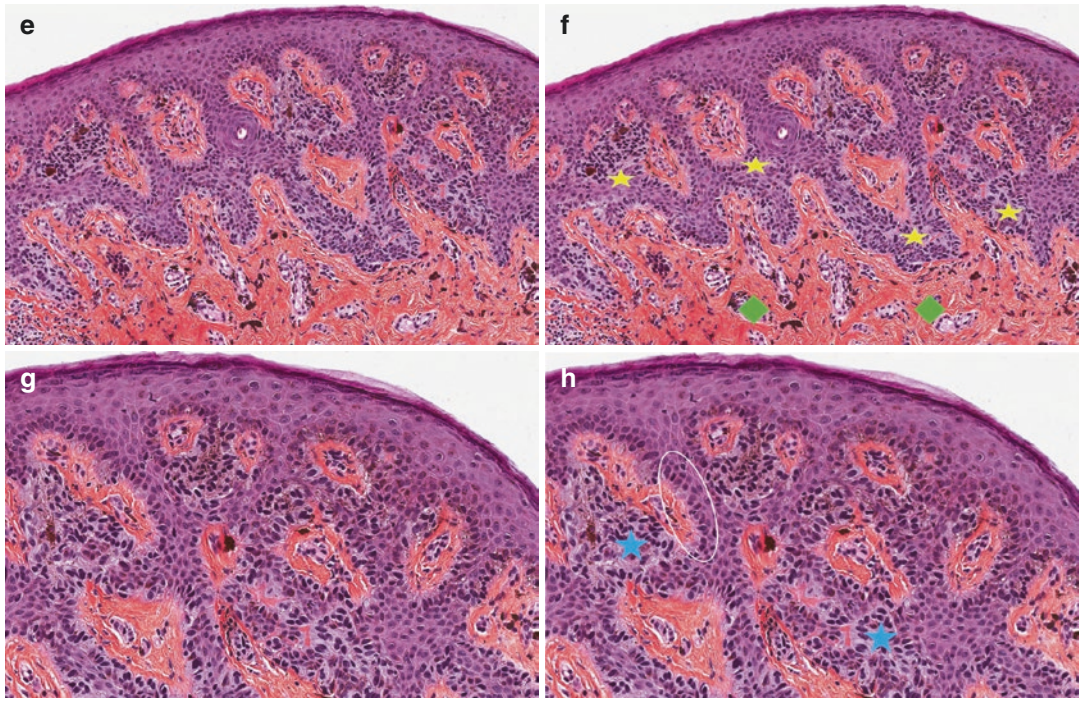

Fig. 8.3 Histological features of junctional nevus (**e**–**h**). (**e**, **f**) ×100 HES. (**g**, **h**) ×200 HES

8.2 Dermal Melanocytic Nevus

The clinical aspect (Fig. 8.4) of this dermal nevus is a well-limited brown homogeneous macule. Dermal nevi are often raised and achromic. They are the most frequent type of nevi of the eyelid.

The IVCM features are as follows (Fig. 8.5a–d):

- Normal epidermis with regular honeycomb pattern (*red stars*).
- Dermo-epidermal junction does not present any atypical cells.

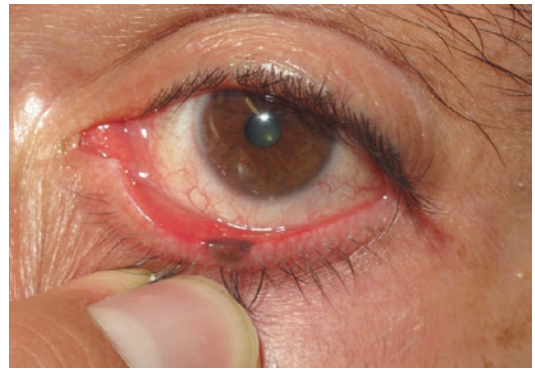

Fig. 8.4 Clinical aspect of dermal nevus

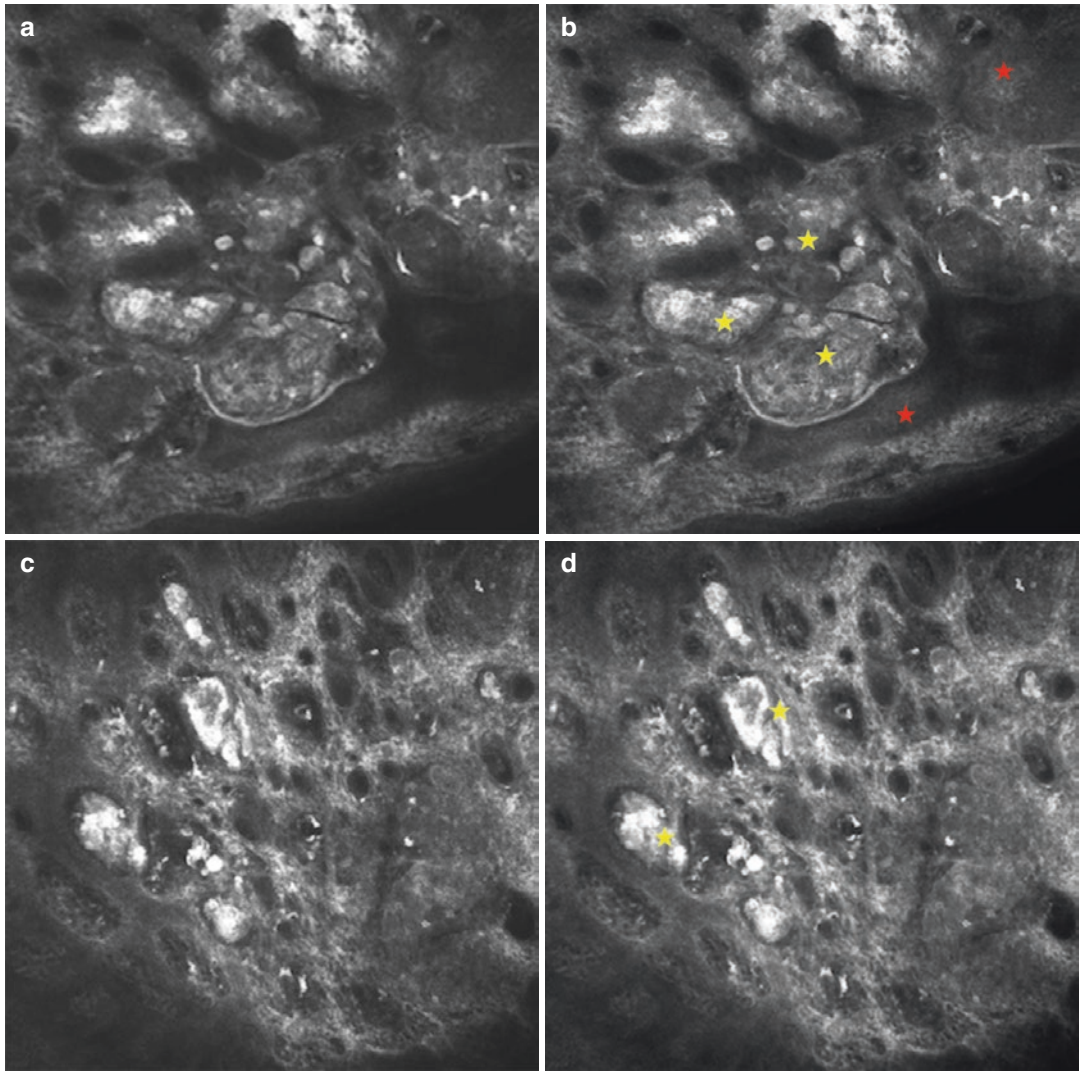

Fig. 8.5 IVCM features of dermal nevus (**a–d**)

– Hyperreflective, homogeneous, medium-sized (10–20 µm), roundish cells organized in nests (*yellow stars*) in the dermis.
– No pagetoid cells.

On optical microscopy the histologic features are as follows (Fig. 8.6e–h):

– At low magnification (e, f), the lesion is composed of a pure dermal melanocytic proliferation (*green dotted lines*), not connected with the epidermis.
– At high magnification (g, h), melanocytes are arranged in clusters (*green stars*), and nests (*yellow arrows*) in the dermis. The epidermis is not involved.

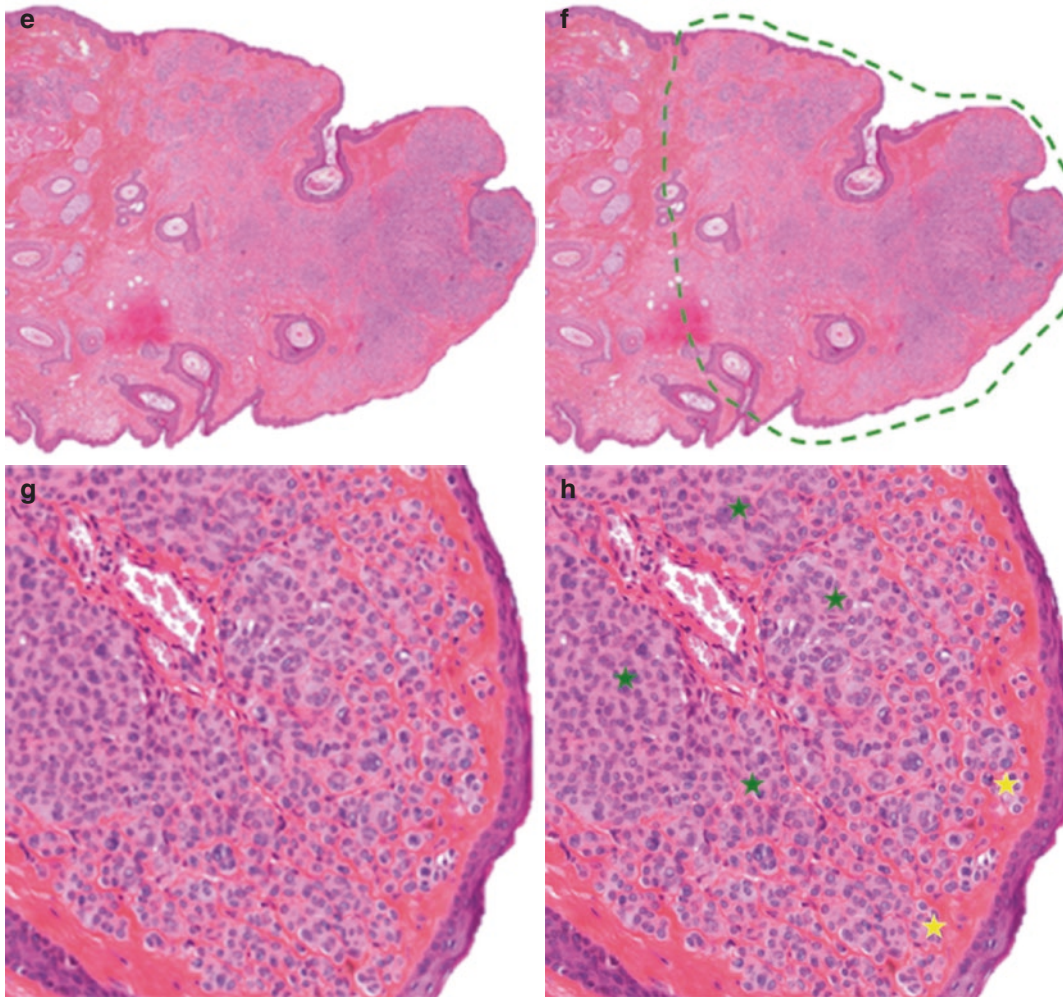

Fig. 8.6 Histological features of dermal nevus (**e**–**h**). (**e**, **f**) ×25 HES. (**g**, **h**) ×200 HES

8.3 Compound Melanocytic Nevus

The tarsal conjunctiva (Fig. 8.7) has a small macule, of homogeneous dark brown color, next to the tear point (*black arrow*).

Under IVCM compound nevus (Fig. 8.8a–d) has the features of both junctional and dermal nevus:

- Normal epidermis with regular honeycomb pattern, without disarrangement of the epithelial layers (not shown here)
- Dermo-epidermal junction (a, b) with large hyperreflective roundish and/or dendritic cells

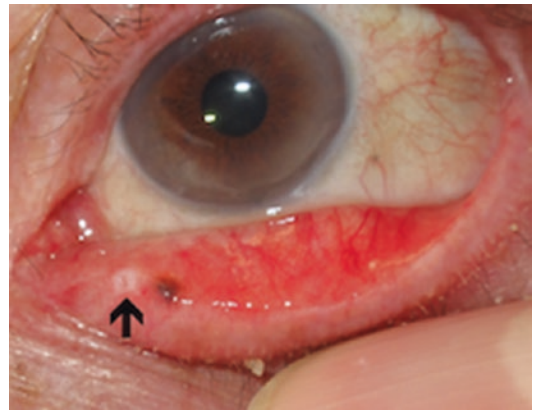

Fig. 8.7 Clinical aspect of compound nevus of the tarsal conjunctiva

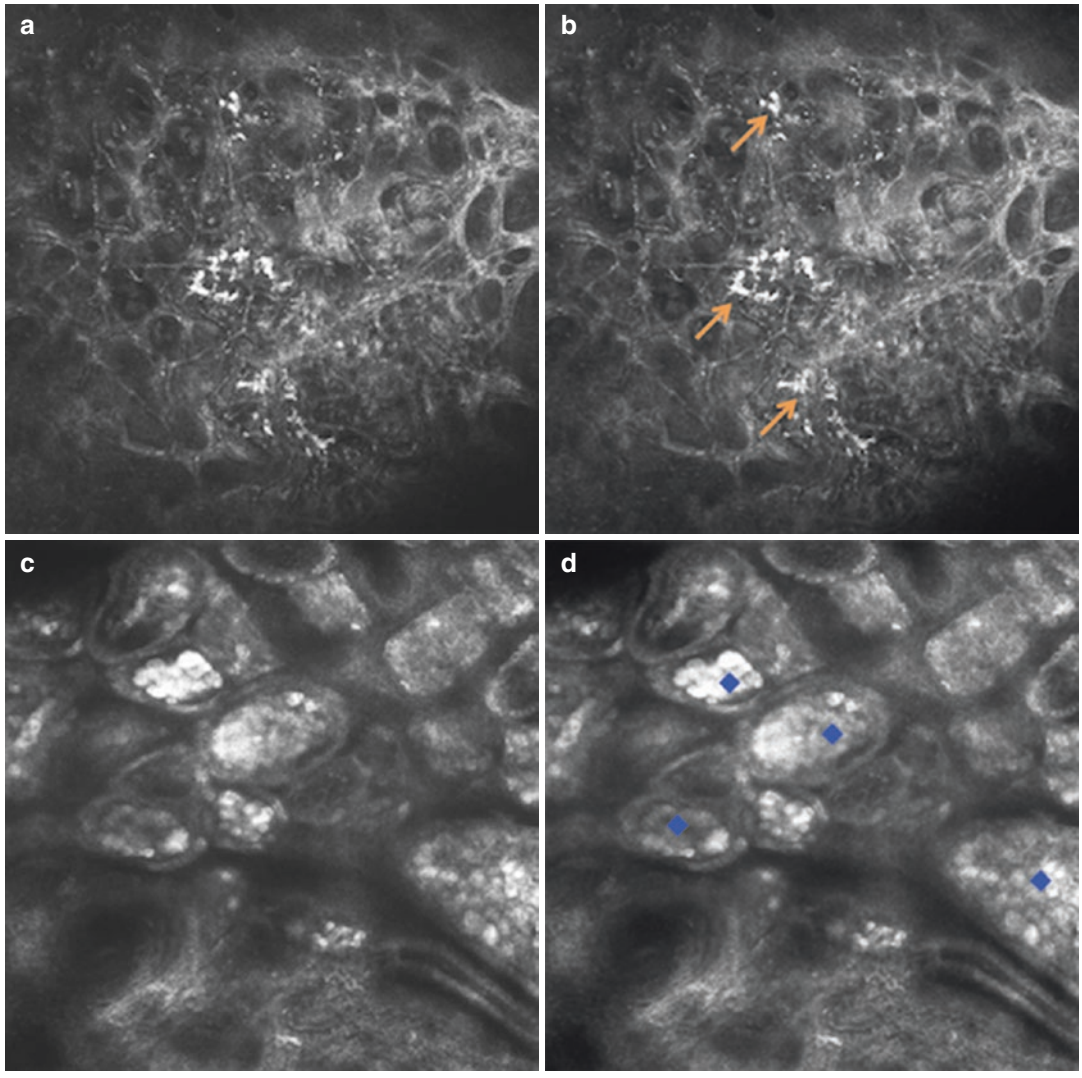

Fig. 8.8 IVCM features of compound nevus (**a**–**d**)

in single units and/or nests (*orange arrows*) corresponding to the junctional nevocytes
– Superficial dermis (c, d) with hyperreflective, homogeneous, medium-sized (10–20 μm), roundish cells organized in nests (*blue diamonds*)

On optical microscopy the histologic features are as follows (Fig. 8.9e–h):

– At low magnification (e, f), dermal melanocyte proliferation is organized in clusters (*blue diamonds*) in the superficial dermis, and in clusters (*green dotted lines*) in the deep dermis.
– At high magnification (g, h), the junctional melanocyte proliferation is rare and is arranged in micro-nests (*orange arrows*).

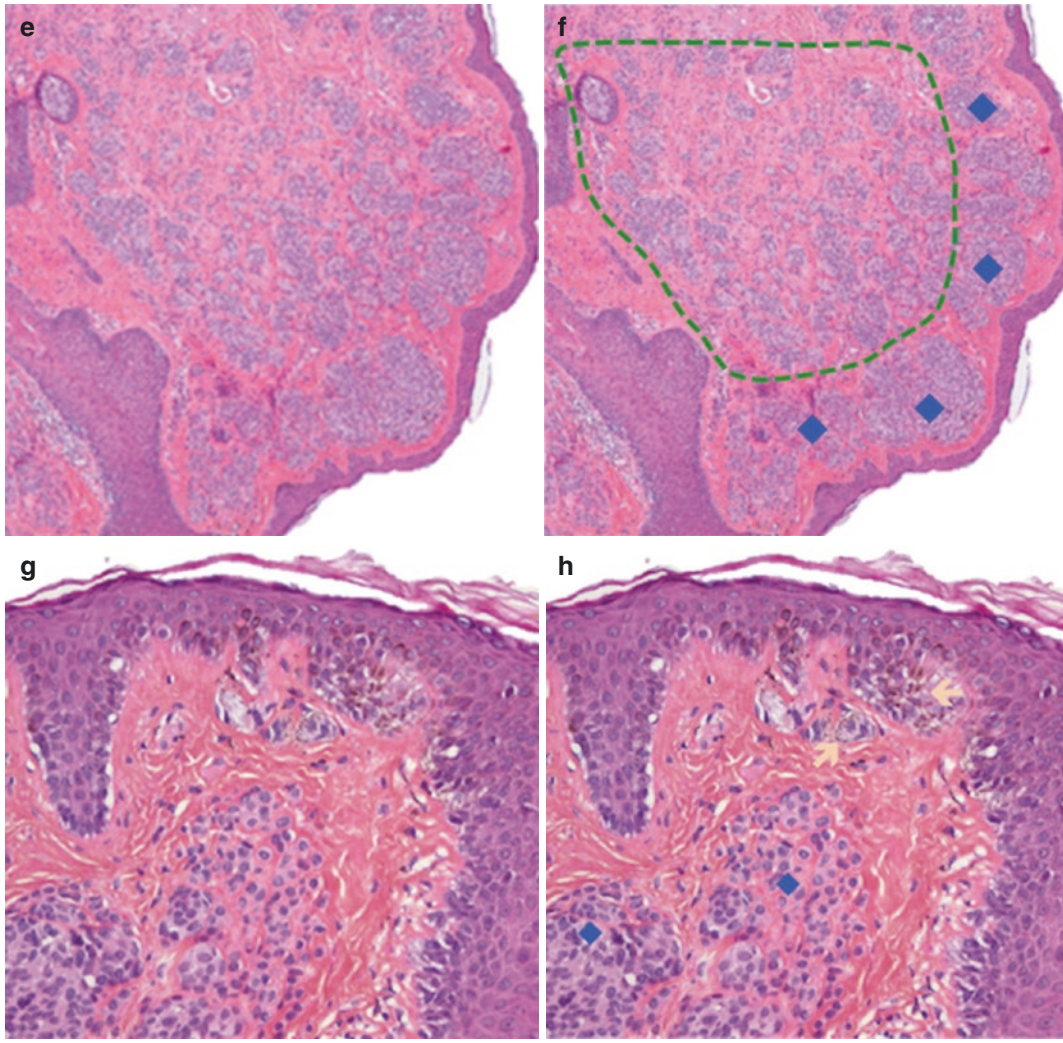

Fig. 8.9 Histological features of compound nevus (**e**–**h**). (**e**, **f**) ×50 HES. (**g**, **h**) ×200 HES