DERMOSCOPY TEACHING PROGRAMME

MODULE 2. DERMOSCOPY OF PIGMENTED MELANOCYTIC NAEVI

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Melanocytic naevi are benign neoplasms derived from melanocytes. The great majority appears after birth (acquired melanocytic naevi) and the malignant potential is very small. The clinical and dermoscopic features of melanocytic naevi are variable.

JUNCTIONAL MELANOCYTIC NAEVI

Junctional naevi are macular brown lesions. On dermoscopy, these flat lesions usually present brown typical network (lines thickness is regular and colour is uniform with margins fading gradually at the periphery). Sometimes, black or brown dots or globules can be seen superimposed on the network lines, often at the centre or encircling the periphery of the lesion).

COMPOUND MELANOCYTIC NAEVI

These lesions are usually raised and show various shades of light brown and dark brown depending on the natural pigmentation of the patient. On dermoscopy, these lesions show various combinations of network, dots/globules and homogeneous areas. It is common to find macular surrounding pigmentation in compound naevi, in these cases the edges tend to be regular and fade gradually at the periphery.

INTRADERMAL MELANOCYTIC NAEVI

Intradermal naevi are frequently raised dome-shaped flesh coloured papules, very common on the face, with superficial telangiectatic vessels and a few hairs emerging from the surface. Most of these lesions show globular pattern on dermoscopy, with sparse or absent pigment network. Comma-like blood vessels are commonly found.

The predominance of dermoscopic types of melanocytic naevi varies according to the individual's age. Globular pattern is the most common dermoscopic pattern found in children. By contrast, in adults acquired naevi are most commonly reticular. Reticular naevi show a tendency to regress during the patient's lifetime and they finally disappear by the seventh to ninth decades.

BLUE NAEVI

Blue naevi appear clinically as diffuse bluish macules, or more frequently papules, with smooth surface. They are common on dorsa of hands-feet, buttocks and face. On dermoscopy they show a homogenous steel blue colour troughout the lesion without network, dots/globules and vessels on surface. The presence of these features should alert to the possibility of melanoma.

Blue naevi can undergo focal fibrosis which causes mottled white-scar like areas within the lesion ("sclerosing blue naevi").

COMBINED NAEVI

A combined naevi is composed of two or more distinct populations, which is usually reflected clinically by the presence of multiple colours. The most common combination is the coexistence of a blue naevus and a junctional or compound melanocytic naevus. These lesions are simulators of malignant melanoma and show alarming dermoscopic features: multicomponent pattern and multiple colours. The presence of a typical pigment network (junctional melanocytic naevus component) juxtaposed to a discrete area of homogeneous blue-gray pigmentation is a clue for the diagnosis.

CONGENITAL MELANOCYTIC NAEVI (CMN)

One to three per cent of all newborns have a confirmed congenital melanocytic naevus. They are classified in small (<1.5 cm), medium (1.5-20 cm) and large (> 20 cm). Giant congenital naevi have a potential risk of malignant transformation variable between 5-15%.

Small and medium size CMN are in general homogeneous both clinically and dermoscopically. At birth, these lesions present as pale macular lesions, which may enlarge and darken with time, developing coarse hairs on surface in many cases. Large CMN are more heterogenous and display multiple "islands" of colour with different topography, which may present an abigarrate pattern under dermoscopy, however these areas tend to be fairly homogeneous in appearance. Small satellite lesions are frequently found close to a CMN, in particular the large CMN, presenting the same patterns of the main lesion. Reticular pattern, globular (cobblestone) and diffuse homogeneous are the most common dermoscopic patterns in CMN. Milia-like cysts as in seborrheic warts and hairy surface are common features, but the most characteristic one is probably the perifollicullar pigment changes, either hyper or hypopigmentation around the hair follicles.

Target structures have also been described in CMN, light brown globules containing a central dot, hyper or hypopigmented and sometimes with small vessels within.

SPITZ AND REED NAEVI

Spitz-Reed naevi are benign melanocytic lesions with prominent spindle and/or epithelioid melanocytes.

The pigmented variant is more frequent in adults, in particular on legs from young females, and presents as heavily pigmented macules. These lesions can be very challenging, from the dermoscopic and histological point of view, and in some cases, the differentiation from a cutaneous malignant melanoma is not possible.

The most common dermoscopic pattern for Reed naevi are the starburst pattern ("exploding star"), with multiple streaks, pseudopods or globules uniformely distributed all around the periphery of the lesion. Homogeneous blue-gray or black-brown pigmentation is usually present centrally. In some lesions, only a portion of the peripheral rim is present, making the differential diagnosis of melanoma extremely difficult. Globular, reticular, homogeneous and atypical patterns have also been described.

The amelanotic variant is more common in children and appears as dome – shaped red papules, which can be confused with angiomas. It presents red or pinkish homogeneous pattern, in some cases with multiple dotted vessels and whitish reticular depigmentation.

ATYPICAL MELANOCYTIC NAEVI

Atypical melanocytic naevi are defined by the presence of architectural and cytological dysplasia. They are considered risk markers of melanoma.
Despite their clinical features, which share the ABCD of MM and can be very alarming, most atypical naevi on dermoscopic examination show a benign pattern and they can present similar dermoscopic features as common melanocytic naevi. However, homogenous areas are more frequently found than in common melanocytic naevi and dots, globules, dark blotches, network, vascular pattern and colours can vary greatly within the lesion. Focal areas of abrupt margins are common in atypical naevi
From the dermoscopic point of view, atypical naevi present the following 6 dermoscopic types: reticular, globular, homogeneous, reticular-globular, reticular-homogeneous, and globular-homogeneous. Reticular pattern is the most common one.
Pigmentation can vary considerably throughout the lesion in atypical naevi, one of the most useful dermoscopic classifications is according to the type of pigmentation (hyper/hypopigmentation) and its location (central, eccentric or multifocal).
Melanocytic nevi with eccentric foci of hyperpigmentation ("Bolognia sign") can be considered as a melanoma-simulating type of acquired melanocytic nevus and this is a common dermoscopic pattern seen in atypical naevi.
Individuals with multiple pigmented melanocytic nevi or nevi with atypical clinical features are considered at increased risk for melanoma development.
Most individuals have a predominant nevus pattern; therefore, the examination of all lesions is crutial because it allows the identification of lesions deviating from the individual's prevailing benign pattern (concept of the "ugly duckling sign")
[1-8,10,12]

FURTHER READING

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