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Basic rules in naevi screening in children

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Congenital melanocytic naevi (CMN) is commonly encountered in paediatric dermatology clinic. It usually presents at birth or in first 3 years of life and persists thereafter. Incidence is around 2-3% of new-borns. CMN is classified into small (<1.5 cm), medium (1.5-20 cm), large (20-40 cm) and giant (>40 cm) as projected adult size. Morphology of CMN varies from flat, smooth and well demarcated to raised papillomatous or verrucous with variegation of colour, terminal hair and sometimes scattered satellites. Hence, we need to be familiar with the variation to decrease amount of unnecessary biopsy. Common dermoscopic features of CMN include cobblestone, globular, reticular, perifollicular hypopigmentation, comma vessels, hair etc.

Lifetime risk of melanoma arising from a small or medium CMN is around 1% and it tends to develop after puberty with predilection over periphery of the CMN with superficial

spreading melanoma subtype. For large or giant CMN, the lifetime risk of melanoma is <5% and it tends to develop earlier in childhood with predominant nodular melanoma subtype.

Melanocytic proliferation can occur in central nervous system (CNS) which is termed neurocutaneous melanosis. It can lead to increased intracranial pressure with increased morbidity and mortality. Risk factors such as giant CMN, satellite naevi >20, multiple CMN and posterior axial location are indications for early MRI screening together with neurological examination and developmental assessment. Naevus spilus/speckled lentiginous naevus is a superficial variant of CMN with macular and papular subtypes. As for CMN, the risk of melanoma is related to the size of lesion and is more common in the macular subtype.

Acquired melanocytic naevi (AMN) appear early in childhood and can increase in numbers in adolescence. They are classified into common (junctional, dermal, compound) and atypical or dysplastic. Famous examples include the papillomatous dermal naevi of the trunk (Unna type) and dome shape dermal naevi of face (Miescher type). Regarding dermoscopic features, globular pattern predominates in children and for naevi over head, neck and upper trunk while reticular pattern predominates in adolescents and for naevi over lower trunk and extremities. AMN normally grow in children. If the lesion changes with symmetric peripheral globules, it is benign and does not require biopsy in children.

The majority of AMN remain benign and more than half of melanoma arise de novo instead. However, signature pattern recognition for 'ugly duckling sign' is always useful. Dysplastic or Clark naevi usually appear after puberty. It usually presents with variable colour, irregular border, >5 mm and sometimes in atypical mole syndrome. It could be difficult to differentiate from early melanoma/ melanoma in situ. Apart from digital dermoscopy and regular early follow up, excision is recommended whenever early melanoma is suspected.

Blue naevi appear in childhood or adolescence and remain stable afterwards

Clinical variants include common blue naevi and cellular blue naevi. Cellular blue naevus is premalignant and usually presents as blue to black nodule with larger size of 1-3 cm predilects over buttocks or sacrum. Hence, large nodular blue naevi with atypical dermoscopic features or changing blue naevi should be biopsied.

Halo or Sutton naevus is a benign melanocytic naevus with a peripheral zone of depigmentation.

It is common in children and adolescents, most commonly occurs over the back, and is associated with vitiligo. However, leukoderma can occur around a melanoma. Hence, we should evaluate carefully especially in older patients.

Spitz naevus can be classified into classic spitz naevus and pigmented spitz naevus (Reed)

They comprise <1 % of childhood melanocytic naevi. There is an increased risk for melanoma especially those with atypical features. They typically have rapid growth and the risk of melanoma increases significantly with age. Hence some clinicians advocate the removal of all spitzoid lesions over regular frequent follow up.

Learning points:

It is important to be familiarised with different naevi presentations in paediatric patients as their morphology and characteristic could be quite different from those of adults.