Dysplastic melanocytic nevus: Under- and overdiagnosis

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Dysplastic melanocytic nevus has been a subject of controversy in the last 20 years. Some dermatopathologists have suggested abandoning this concept to use Clark's nevus term for a large group of melanocytic nevi, including those lesions which are supposed to be precursors of melanoma or markers of patients with the dysplastic nevus syndrome. Some other dermatopathologists in their publications and textbooks emphasize the importance of dysplastic melanocytic nevus as an early stage of tumor progression in the knowledge of the natural history of melanoma.

Much of the confusion in this controversy is due to a misunderstanding in semantic terms, in the definition and in the microscopic criteria used in the diagnosis of dysplastic melanocytic nevus. This misunderstanding makes it easy to wrongly consider some other melanocytic lesions to be dysplastic melanocytic nevus. The aim ot this presentation is to discuss the over- and underdiagnosis of dysplastic melanocytic nevus.

Main microscopic features of dysDlastic melanocvtic nevus

Acquired common vattern

Dysplastic melanocytic nevus may be junctional or compound. When compound, the dermal component must be located on the papillary (adventitial) dermis. There should not be either a band of lymphocytoid nevus cells over the superficial vascular plexus or nevocytic component in the reticular dermis.

Intraeoidermal melanoc vt/c oroliferation with architectural disorder

Proliferation of melanocytes in nonequidistant isolated units and/or in nests of different sizes and shape frequently fused among them must be observed.

Random melanocytic nuclear atvp/a

With a medium power objective, random atypia is easily depicted because of hyperchromatism, large size or peculiar shapes of melanocytic nuclei.

Mesenchvmal reaction in the gao/l/arti dermis

Lamellar and/or eosinophilic concentric fibrosis, slight vascular neoformation and slight lymphocytic infiltration are the last criteria in diagnosis.

Underdiagnosis of dysplastic melanocytic nevus

The radial orowth ohase of melanoma

I believe melanoma *in situ* (MIS) to be the maximum expression of dysplastic melanocytic nevus. As in cervical pathology cervical intraepithelial neoplasia (GIN) II, III, and carcinoma *in situ* (CIS), dysplastic melanocytic nevus and MIS may be considered to be high-grade or high-risk melanocytic intraepidermal neoplasia (MIN). There is no definite hallmark to differentiate dysplastic melanocytic nevus and MIS. Some dermatopathologists make the diagnosis of MIS only when intraepidermal melanocytic proliferation reaches the most superficial levels with a pagetoid pattern.

Even with step sections it is difficult to depict isolated tumor cells in the papillary dermis at the very early microinvasive stage of the radial growth phase. In my opinion, the most useful feature to differentiate dysplastic melanocytic nevus or MIS *vs.* microinvasive radial growth phase is the presence of a brisk lymphocytic infiltrate in the papillary dermis when microinfiltration takes place.

Overdiagnosis of dysDlastic melanocytic nevus

Very different melanocytic lesions with intraepidermal or junctional architectural disorder have been reported and discussed in the differential diagnosis of dysplastic melanocytic nevus and MIS. Two among them deserve special comment.

Lentipinous melanocytic nevus

In some melanocytic nevi the epidermal component enlarges radially and persistently with a slight junctional and minimal or absent intradermal component. These nevi present themselves as macules greater than 6 mm with irregular borders, located mainly on the back and clinically classified as atypical nevi. The biological behavior of these lesions has not yet been settled. Are these lesions definitively different from dysplastic melanocytic nevus? Or are they facultative precursors of dysplastic melanocytic nevus as GIN Ito GIN II and III are in cervical pathology?

Melanocvtic nevi with microscopic congenital vattern

Not only large congenital nevi in neonates and children, but even small nevi with microscopic congenital pattern in adults may exhibit intraepidermal and junctional melanocytic proliferation with architectural disorder and random atypia. Although these lesions could be early precursors of melanoma, these nevi must not be considered dysplastic melanocytic nevus because there is no evidence of lesional multiplicity or any familiar incidence.

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