



LENTIGO SIMPLEX

Epidemiology

The frequency of lentigo simplex in children and adults has not been determined. There does not appear to be a racial or gender predilection. Lentigo simplex is the most common histopathologic pattern of darkly pigmented lesions excised from acral sites of darkly pigmented races. Pigmented nail bands, noted in up to 20 percent of Japanese, may have histopathologic features of lentigo simplex. For agminated lentigines, the population prevalence is unknown, but it is believed to be rare.

Etiology and Pathogenesis

The increased density of melanocytes in lentigines is presumably due to an underlying developmental or intrinsic defect in melanocyte homeostasis. In some lentigines, the presence of melanin macroglobules in melanocytes and keratinocytes suggests that defects affecting melanization pathways are also involved. The presence of lentigo simplex in association with somatic abnormalities in such diverse conditions as Peutz-Jeghers syndrome, LEPOARD syndrome (lentigines; electrocardiogram conduction defects; ocular hypertelorism; pulmonary stenosis; abnormalities of genitalia; retardation of growth, and sensorineural deafness), and LAMB/myxoma syndrome suggests that lentigo development may be influenced by a number of different genetic factors. For agminated lentigines, it is possible that chromosomal mosaicism plays a role in the development of the localized collection of lentigines.

Clinical Findings

HISTORY

Unlike solar lentigines, lentigo simplex is thought to be largely UVR independent. Lentigo simplex may appear as early as the first decade and may occur anywhere on skin or mucous membranes.

Generalized lentigines may occur as an isolated phenomenon without known familial aggregation and first appear at birth, during infancy, or during adulthood. Familial clustering in an autosomal pattern also has been noted. A number of syndromes are recognized .

In Moynahan (LEOPARD) syndrome, lentigines are present at birth or shortly thereafter and may increase in number during childhood. In Peutz-Jeghers syndrome, numerous lentigines may be present at birth or appear during early childhood. Oral pigmentation usually persists in Peutz-Jeghers syndrome, whereas cutaneous lentigines usually fade after puberty. In LAMB syndrome, the lentigines on the lips and genital sites appear in early childhood and tend to persist.

LENTIGO SIMPLEX AT A GLANCE

- Includes a spectrum of melanocytic hyperplasias consisting of intraepidermal melanocytic hyperplasia and increased melanin formation. The extent of melanocytic hyperplasia can be quite variable, ranging from lesions in which the increased melanin content is notable but the increase in melanocyte number is marginal, to lesions in which accumulation of melanocytes is marked.

- Lesions consist of hyperpigmented macules and may be isolated, agminated (focal cluster), or multiple and present on skin, nails, and mucous membranes.
- May be congenital or acquired.
- Multiple lentigines may be associated with somatic abnormalities.
- Synonyms: simple lentigo, melanotic macule, lentiginosis. Other names for agminated lentigines include unilateral lentigines, partial unilateral lentiginosis, lentiginous mosaicism, and segmental lentiginosis.
- Other lesions in which epidermal melanocytic hyperplasia may be noted, and some overlap may exist with simple lentigines, include café-au-lait macules, melasma, and inflammatory/cytokine-induced proliferation.

Agminated lentigines first become manifest at birth or early childhood.

CUTANEOUS LESIONS

Lentigo simplex usually is a sharply circumscribed, light-brown or dark-brown macule.

In Moynahan (LEOPARD) syndrome, lentigines occur on both sun-exposed and sun-protected sites, including genitalia, conjunctiva, oral mucosa, palms, and soles. In Peutz-Jeghers syndrome, lentigines are almost always present on the oral mucosa. Other common sites of involvement include lips, nose, eyelids, anus, nail bed, and dorsal and ventral surfaces of hands and feet.

Lentigines in the myxoma syndrome (LAMB) occur mainly on the face and genitalia as tan to black macules . In centrofacial lentiginosis, the presence of pigmented macules is restricted to a horizontal band across the central face.

Agminated lentigines first become manifest at birth or early childhood as small, circumscribed, light-brown macules, 2 to 10 mm in diameter, confined to a localized area of the skin, often in a segmental distribution and frequently in a curvilinear or swirled pattern. Wood's lamp examination may be required to differentiate agminated lentigines from nevus spilus, because the macular background pigmentation is evident in the latter and absent in the former.

RELATED PHYSICAL FINDINGS

If there is concern that the lentigines are part of a syndrome, further evaluation is appropriate, and should be guided by the physical findings and syndrome under consideration.

Laboratory Tests

HISTOPATHOLOGY

Lentigo simplex consists of intraepidermal melanocytic hyperplasia in the basal layer of elongated epidermal rete ridges, without nest formation. At one end of the lentigo spectrum, lesions are more similar to café-au-lait lesions, in which the melanocyte number may only be minimally increased but pigmentary differences are marked; at the other end of the spectrum, the number of melanocytes is sufficiently increased to begin forming nests, appearing similar to a junctional nevus. Depending on the degree of keratinocytic hyperplasia, distinct separation from solar lentigo may not be possible based on histopathologic interpretation alone. Giant pigment granules (melanin macroglobules) may occur in lentigo simplex in isolation, and in association with multiple-lentiginos (LEOPARD) syndrome.

In agminated lentiginos, histopathologic studies reveal increased numbers of melanocytes in elongated epidermal rete ridges, similar to lentigo simplex, without nests of nevomelanocytes or cellular inflammation.

SPECIAL TESTS

Mart-1, Mel-5, and DOPA histochemistry may be useful to demonstrate increased number of melanocytes confined to the basal layer and lacking junctional nest formation. If a syndrome is under consideration, imaging studies may be required.

Differential Diagnosis

Complications

There are no known complications from lentigo simplex. Complications arise from the associated syndromes. Atypical varieties of lentigo simplex (in any anatomic site) may be potential precursors or masqueraders of melanoma.

Prognosis and Clinical Course

The natural history of isolated lentigo simplex is not known. Once developed, the lesions are presumed to be relatively stable. There is no convincing evidence that lentigo simplex evolves to a nevomelanocytic nevus. As with any process in which melanocytes are present (including normal skin), it is possible for melanoma to arise in a lentigo, but an elevated risk has not been demonstrated conclusively for lentigo simplex.

The long-term course and malignant potential of agminated lentigines are unknown.

Treatment

There is no need to treat benign-appearing lentigo simplex. Cosmetic removal may be achieved with cryotherapy or

other destructive approaches such as Q-switched laser. However, caution must be taken to ensure the lesion being treated is benign. Lesions that are significantly unusual, irregular, asymmetric, or changing in shape should be examined histopathologically to exclude melanoma. Wood's lamp examination is useful in defining margins of lentigo simplex.

Differential Diagnosis of Lentigo Simplex

- Solitary
 - o Solar lentigo/ephelids
 - o Junctional nevomelanocytic nevus
 - o Atypical (dysplastic) melanocytic nevus
 - o Café-au-lait macule
 - o Melanoma (lentigo maligna)
- Grouped

- o Agminated nevi
- o Nevus spilus

Until the long-term course of agminated lentigines is known, it may be prudent to recommend periodic examinations to detect the earliest signs of possible malignant evolution.

Prevention

UVR is clearly associated with the development of solar lentigines, but its role in the different types of simple lentigines is not known. However, it is rational to limit UVR overexposure