OASIS DERMATOLOGY GROUP

Ph: (956) 971 - 0404
www.oasisderm.com

Congenital Moles

A nevus (plural: nevi) is a benign skin lesion commonly referred to as a mole. The term "mole" derives from the Middle English word for "spot" and is widely used to describe various types of pigmented or nonpigmented skin growths. Nevi are composed of clusters of melanocytes, the cells responsible for producing melanin, which gives these lesions their characteristic brown or black color. Nevi can be classified as congenital (present at birth) or acquired (developing later in life), and their appearance, size, and risk factors for malignancy vary depending on their type.

Acquired Nevi

Acquired nevi typically develop after birth and are commonly found in both children and adults. Most acquired moles are small (usually less than 1/4 inch in diameter) and are often caused by sun exposure, particularly during childhood and adolescence. These lesions can appear anywhere on the body, with a typical brown color due to the presence of melanin, though they can exhibit a range of colors and shapes. Moles may be flat or raised, and they might contain dark hairs, a characteristic that does not increase their risk for malignancy.

While many acquired moles are harmless, the appearance of new moles after the age of 50 warrants careful attention. Changes in a mole, such as darkening or irregularity, can be influenced by external factors like sun exposure or pregnancy, but in rare cases, such changes may signal the early stages of melanoma, a form of skin cancer.

Atypical Nevi (Dysplastic Nevi)

Atypical nevi (also called dysplastic nevi or Clark's nevi) are more complex than typical moles. They are often larger than ordinary moles and exhibit irregular borders, uneven coloration (from tan to dark brown), and a more heterogeneous surface. The irregularity of their shape and color may make them resemble early-stage melanoma, although not all atypical nevi transform into skin cancer.

Estimates suggest that approximately 10% of the U.S. population has at least one atypical mole. While they are considered precancerous, the vast majority of atypical moles do not progress to melanoma. Studies indicate that melanoma can arise from both atypical and normal skin, with half of melanomas occurring in skin that was previously unaffected by atypical nevi. Therefore, while atypical moles may increase the risk of melanoma, not all individuals with atypical moles will develop skin cancer.

Congenital Nevi

Congenital nevi are present at birth, affecting approximately 1 in 100 individuals. These moles vary widely in size, shape, color, and texture, with some covering small areas of the skin and others encompassing large portions of the body. The larger congenital nevi, sometimes referred to as giant congenital nevi, can be over 4 inches in diameter at birth and often present with a variety of features, including uneven pigmentation, surface irregularities, and hair growth. Giant congenital nevi have a higher risk of developing melanoma, estimated at around 6%. The presence of "satellite nevi," smaller moles surrounding a large congenital nevus, may further increase the risk of malignancy, though these satellite lesions generally carry a lower risk.

Neurocutaneous melanosis, a rare but serious complication, occurs when nevus cells infiltrate the central nervous system, leading to potential neurological complications. This condition is most commonly associated with large congenital nevi that affect a significant portion of the body.

For smaller congenital nevi, the risk of developing melanoma is much lower, and these moles rarely become malignant before puberty. However, any significant changes in the size, color, or texture of congenital moles, as well as the development of pain, bleeding, or itching, should be evaluated promptly by a healthcare provider.

Treatment Options

Treatment for nevi is typically guided by the appearance of the lesion, its location, size, and any clinical suspicion of malignancy. Surgical excision is the most common method of removal, especially when there is concern for skin cancer. For larger nevi, excision may be performed in stages, known as serial excision, to ensure complete removal while minimizing scarring. Smaller nevi can often be shaved off, but larger lesions may require deeper excision and closure with sutures. Skin grafting may be required for larger excisions, particularly for giant congenital nevi, where the excised area is too large to close without external tissue. The grafted area may experience scarring and reduced skin elasticity, and in rare cases, melanoma may develop beneath the graft due to residual nevus cells.

In addition to excision, other methods such as laser therapy, chemical peels, and dermabrasion are sometimes used for cosmetic purposes, though these treatments may not remove all nevus cells and can result in pigment regrowth, which complicates diagnostic monitoring. Laser treatment, in particular, is not recommended for any mole suspected of being precancerous or malignant, as it can obscure pathological evaluation.

Conclusion

Nevi, or moles, are common skin lesions that can appear at any age. While most nevi are benign, certain types—such as atypical and congenital nevi—may carry an increased risk of melanoma. Monitoring changes in the size, color, or texture of any mole is crucial, and lesions that show concerning features should be evaluated by a dermatologist. Surgical excision remains the most

effective treatment for high-risk moles, with various techniques available depending on the size and location of the lesion. Continuous research is necessary to refine treatment strategies and to improve early detection and prevention of melanoma.

References

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