

Moles (Nevi)

A "mole" is the common term for a skin lesion known medically as a nevus. Nevi are benign growths composed of melanocytes, the cells responsible for pigment production. These growths can be present at birth or develop later in life. The characteristics, size, and risk profile of moles vary, and understanding these features is crucial for identifying atypical or potentially malignant moles.

Types of Nevi

➤ *Acquired Nevi*

Acquired nevi are those that develop after birth, typically throughout childhood or early adulthood. These moles are often smaller than 1/4 inch (6 mm) in diameter and can vary significantly in appearance. While many people associate moles with dark brown spots, they can also appear in various shapes, sizes, and colors. Moles may be raised or flat and may include dark hairs, which do not necessarily indicate malignancy. The pigment in moles is due to melanin, produced by specialized pigment-producing cells (melanocytes).

Sun exposure is a well-established factor contributing to the formation of acquired nevi, especially during childhood and adolescence. The development of facial moles may be genetically determined, but moles appearing after the age of 50 should be monitored closely as they may present a higher risk for melanoma. Hormonal changes, such as those associated with pregnancy or steroid medication use, can also cause moles to darken. Although most moles do not become cancerous, melanoma can develop from pre-existing moles, especially if they exhibit abnormal characteristics.

➤ *Atypical Nevi (Dysplastic Nevi or Clark's Nevi)*

Atypical moles are larger than typical moles, often exceeding 1/4 inch in diameter, and display irregular borders and color variations. They can range from tan to dark brown on a pinkish base and may have notched borders. Atypical moles are considered a precancerous condition because they have an increased risk of transforming into melanoma compared to normal moles. However, most atypical moles do not turn into melanoma, and the presence of such moles does not mean an individual will inevitably develop skin cancer. It is estimated that 10-15% of the population has at least one atypical mole.

Pathologically, atypical nevi demonstrate features intermediate between normal moles and melanoma. These features include abnormal architecture and increased melanocytic

activity. While individuals with atypical moles may be at increased risk for melanoma, the majority of melanomas in these individuals arise from normal skin rather than from the atypical moles themselves.

➤ ***Congenital Nevi***

Congenital nevi are moles present at birth. Approximately 1 in 100 infants is born with a congenital nevus, which can vary in size, shape, color, and texture. These moles can range from small lesions to large, covering significant portions of the body. Giant congenital nevi are especially large, often exceeding 4 inches (10 cm) in diameter, and are present in about 1 in 20,000 births. These large nevi have an increased risk of developing into melanoma, estimated to be around 6%. Giant nevi may also be associated with a condition called neurocutaneous melanosis, where nevus cells are found in the central nervous system (CNS).

Smaller congenital nevi have a much lower risk of malignant transformation, with the likelihood of malignancy being less than 1%. These nevi generally grow in proportion to the body during childhood, and their color may either lighten or darken over time. Any change in size, color, texture, or the development of symptoms such as pain, bleeding, or itching warrants medical evaluation.

Risks Associated with Nevi

While most moles are benign, certain types, particularly atypical and giant congenital nevi, can increase the risk of developing melanoma, a highly aggressive skin cancer. The risk of melanoma developing from a nevus is associated with factors such as:

- ***Size:*** Larger nevi, particularly giant congenital nevi, carry a higher risk of malignancy.
- ***Changes in appearance:*** Any alterations in a mole's size, shape, color, or texture may indicate malignancy.
- ***Family history:*** A family history of melanoma increases the likelihood that an individual with atypical or congenital nevi may develop melanoma.
- ***Sun exposure:*** Excessive sun exposure, especially during childhood, is linked to the development of both acquired moles and melanoma.

Treatment of Nevi

Treatment for nevi typically depends on their type, size, location, and the presence of any concerning changes. In general, surgical excision is recommended for moles that are suspected of being cancerous, for cosmetic reasons, or for larger congenital nevi. Treatment options include:

- ***Shaving:*** Smaller moles can be removed using a shaving technique, where the mole is scraped off the skin's surface. This approach is less invasive but may leave a scar.

- **Excisional Surgery:** Larger moles may be excised, and the wound edges are typically sutured together. For very large moles, serial excision may be necessary, where the nevus is removed in stages, to minimize tissue damage.
- **Skin Grafts:** For large congenital nevi or when large excisions are performed, skin grafts may be required. A split-thickness skin graft is harvested from a donor site and placed over the excised area. While grafts are effective in covering large wounds, they may leave a noticeable scar and can be more fragile than normal skin.
- **Laser Treatment:** While laser treatments can remove moles for cosmetic reasons, they are not typically recommended for moles suspected of being cancerous. Laser treatment may destroy nevus cells before they can be examined for malignancy, and it can sometimes result in recurrence of pigment.
- **Chemical Peels and Dermabrasion:** These techniques are sometimes used to remove moles, but they have similar risks as laser therapy in that they may leave nevus cells behind and impede pathological evaluation.

Conclusion

Nevi are common skin lesions that can be classified into acquired, atypical, and congenital types, each with varying degrees of risk for malignant transformation. While most moles are benign, certain types, such as atypical and giant congenital nevi, may require closer monitoring due to their increased potential for developing into melanoma. Surgical excision remains the primary treatment for moles that present a risk of malignancy, and early detection of changes in moles can lead to better outcomes. Regular skin checks, especially for individuals with atypical or congenital nevi, are essential for monitoring potential skin cancers.

References

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