Cancer

Melanoma

What is melanoma?

Cancer develops when cells grow out of control. Melanoma is a cancer that starts in melanocytes, or pigment-producing cells, usually in the skin. It is less common than other types of skin cancer, but it is more aggressive and more likely to spread to other parts of the body. (See separate Basics page for other types of skin cancer.)

Who gets melanoma?

About 91,300 people develop melanoma, and about 9,300 people die from it annually, according to the American Cancer Society. Although melanoma accounts for only about 1 percent of all skin cancers, it is the most common cause of skin cancer death. Melanoma rates have been rising over the past three decades.

Melanoma is more common in men than in women. The risk increases with age—the average age at diagnosis is 63—but it is also one of the most common cancers among young adults. White people are about 20 times more likely than African Americans to develop melanoma, but people with dark skin can get it as well.

What are the risk factors for melanoma?

The main risk factor for skin cancer is exposure to ultraviolet (UV) radiation from the sun or tanning beds. People who spend a lot of time outdoors and individuals with blond or red hair and pale skin are at greatest risk. Blistering sunburns at a young age increase the lifetime risk of melanoma. Avoiding the sun, wearing clothes that cover the skin and using sunscreen can reduce the likelihood of developing melanoma.

People with certain types of abnormal or atypical moles are more likely to develop melanoma, but most moles do not become cancerous. Other risk factors include a family history of melanoma and having a weakened immune system.

What are the symptoms of melanoma?

The most common sign of melanoma is an unusual mole or dark spot on the skin, but most moles are not cancer. New or changing moles should be reported to your doctor. Look for moles that have these characteristics:

- A: asymmetrical moles

- B: moles with irregular or ragged borders
- C: moles that contain different colors
- D: moles that are more than a quarter inch in diameter
- E: moles that are evolving, or changing in size, shape or appearance

Other warning signs of melanoma include redness or swelling around a mole, oozing or bleeding moles, pain or itching and sores that don't heal.

Melanoma is most likely to appear on the chest, back, arms, legs, neck or face. It may also develop on the palms of the hands, soles of the feet, under the nails, on mucous membranes or in the eyes. If it goes untreated, melanoma can spread to other parts of the body including the lymph nodes, lungs, and brain; the process of spreading is known as metastasis.

How is melanoma diagnosed?

Early detection and treatment of melanoma increases the likelihood of long-term survival. Regular self-examination of the skin can find abnormalities that might be cancerous. Be sure to include your scalp, ears and back. Report new or unusual spots or sores to your health care provider—a doctor or nurse can often distinguish between those that are benign or harmless and those that are malignant or cancerous.

The process of diagnosis starts with a physical exam and medical history, including family history and how long symptoms have been present. Your doctor will examine suspicious areas of the skin and may feel for enlarged lymph nodes. You may be referred to a dermatologist, or skin specialist, for further examination. A sample of abnormal tissue (a biopsy) may be removed to examine in a laboratory.

Imaging tests including X-rays, computed tomography (CT), positron emission tomography (PET) or magnetic resonance imaging (MRI) may be done to see whether and how much the cancer has spread. A blood test for biomarkers may also indicate metastasis. Genetic testing may be done to provide more information about the cancer's charcteristics and how best to treat it.

Melanoma is sometimes found in other parts of the body before a skin abnormality is detected or after one has been removed. In rare cases, it can start in internal organs. Once it has spread widely, it may be impossible to tell where melanoma originated.

How is melanoma treated?

Treatment for melanoma depends on how advanced it is when it is detected and whether it has spread to nearby lymph nodes or other parts of the body.

Surgery: Small and localized melanomas can often be surgically removed, a process known as resection. Nearby lymph nodes may also be removed and tested for cancer cells.

Radiation: Radiation may be used to kill cancer cells that remain after surgery or to shrink tumors that cannot be surgically removed. Sometimes radiation can help relieve symptoms of melanoma that has spread to the bones or brain. It is often used in conjunction with other forms of treatment.

Chemotherapy: Traditional cytotoxic chemotherapy works by killing fast-growing cells, including cancer cells. It can also destroy rapidly dividing healthy cells, such as those in the gut or hair follicles, leading to side effects like nausea and hair loss. Chemotherapy does not work as well for melanoma as it does for some other types of cancer.

Targeted therapy: Targeted drugs work against cancers with specific characteristics. For example, they may interfere with signaling pathways that regulate cell growth. Melanoma often has mutations in a gene known as BRAF that can make it susceptible to targeted therapies.

Immunotherapy: The newest type of treatment helps the immune system fight cancer. For example, some tumors can turn off immune responses against them, and drugs known as checkpoint inhibitors can restore T cells' ability to recognize and destroy cancer cells. Some of these drugs are approved for advanced melanoma. Because it has more mutations than most other cancers, melanoma responds better to immune-based treatment.

For more information on melanoma, see the following resources:

American Cancer Society: Melanoma Skin Cancer

National Cancer Institute: Skin Cancer (Including Melanoma)

Melanoma Research Alliance

For more information about melanoma, please visit our sister site Cancer Health.

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