

Clinical Watch

FROM CSAC, THE CLINICAL AND SCIENTIFIC AFFAIRS COUNCIL OF THE AAPA

MELANOMA

Early detection saves lives

›WHO SHOULD READ THIS?

All physician assistants should be able to assess patients for potential risk factors for melanoma.

›WHY IS THIS IMPORTANT?

Melanoma is the sixth most common cancer in the United States, and its incidence has tripled in the white population over the past 20 years.¹ With early detection and treatment, the cure rate for melanoma is about 90%.² Since 1992, Surveillance, Epidemiology and End Results data show that the number of new cases of melanoma in younger females has increased.³ The change after 1992 is the result of increases in sun exposure and the use of tanning beds. Although melanoma makes up only 4% of skin cancer cases, it accounts for 77% of skin cancer deaths.¹ Melanoma can develop on both sun-exposed and non-sun-exposed areas.

›WHAT ARE THE RISK FACTORS?

The risk factors for melanoma are fair complexion, frequent sunburns, more than 50 moles, atypical moles (dysplastic nevi), male sex, a personal or family history of melanoma, immunosuppression, and presence of xeroderma pigmentosum.^{1,4} Controversial risk factors are oral contraceptive use, dietary factors, smoking, endometriosis, Parkinson's disease, and occupational exposures (eg, polychlorinated biphenyls, selenium, petroleum, and ionizing radiation).¹

Melanoma incidence is higher in persons with repeated intense sun exposure and damage. Occasional exposure and sunburns before age 18 years are strongly associated with an increased risk of melanoma.¹ Occupational exposure is not associated with increased risk.¹ Exposure to UVB radiation is more strongly associated with melanoma than is exposure to UVA radiation, which supports the relationship between living close to the equator and a higher incidence of melanoma.¹ However, UVA exposure appears to be causally related to melanoma development.

A history of melanoma in a first-degree relative increases the risk of disease 2-fold and accounts for 10% of melanoma cases. Mutation of the cell cycle-regulating cyclin-dependent kinase inhibitor *2A* gene establishes a high risk for melanoma.⁵

›WHAT IS THE SCREENING METHOD?

Visual examination of the patient's skin is the most frequently used screening method. Melanoma is usually brown or black, but occasionally it may be light red or skin-colored. Melanoma lesions grow very slowly; therefore,

TAKE-HOME POINTS

- Melanoma makes up 4% of skin cancer cases but is the cause of 77% of skin cancer-related deaths.
- Early recognition with surgical excision has a high cure rate.
- Increased lesion thickness is associated with more invasive disease and higher risk of metastasis.
- Total-body skin examinations should be done routinely by the patient and/or a health care provider.
- Sun exposure should be minimized during the hours of 10 AM to 4 PM. If out in the sun, skin should be covered by wearing appropriate clothing, sunglasses, and a hat. Sunscreen with an SPF 15 or higher should be applied to exposed skin.

early recognition is a key to effective treatment. PAs need to remember the screening ABCDEs when examining a lesion suspicious for melanoma (see Table 1, page 21).

Superficial spreading melanoma lesions are more commonly found on the legs and back on women and backs and upper extremities on men;^{3,6} have a diameter of more than 6 mm; are asymmetrical; and are flat or slightly elevated with a brown, black-pink, white, or blue pigmentation. Nodular melanoma lesions are most commonly found on the trunk and legs. This lesion is a dark brown to black nodule and can ulcerate and bleed. Nodular melanoma lesions typically do not follow the screening ABCDEs of examination findings.⁴

›WHAT ARE THE STAGING METHODS?

The Breslow microstaging method measures lesion thickness from the granular layer to the deepest part of the tumor. The Clark classification grades the lesion by level of penetration, from level I (lesion is confined to the epidermis) to level V (lesion penetrates into the subcutaneous fat).⁷ The American Joint Committee on Cancer and the International Union Against Cancer use a four-stage system based on the level of tumor invasion, nodal involvement, and metastases.

Melanoma metastasizes in 15% to 26% of cases of stage I or II disease. Metastasis is usually in a stepwise progression from primary to regional to distant metastases. Melanoma may also progress directly to distant metastases.

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▶WHAT TESTS ARE USED IN THE WORKUP FOR MELANOMA?

Primary melanoma:

- **Stage I or II** Imaging studies are not indicated when no lymph nodes are palpated and patients are asymptomatic. The detection of metastases at this stage is rare. Baseline chest radiography and liver function tests are helpful.⁶
- **Stage III** CT should be obtained based on location of the lesion and the patient's symptoms. Positron emission tomography may be beneficial in a patient with stage IIC or more severe disease.⁸

Primary melanoma with locoregional disease:

- **Stage III** Patients with stage III disease are at higher risk of systemic recurrence. CBC, serum lactate dehydrogenase levels, and chest radiographs should be obtained. Imaging studies may be useful for evaluation of metastases. Recurrent disease below the waist warrants CT of the pelvis, whereas recurrence in the upper body warrants CT of the head and neck region.⁸
- **Stage IV** Workup is the same as for patients with stage III disease, with MRI of the brain also recommended. The need for a bone scan, GI series, and other imaging studies is based on the patient's symptoms.⁸ Sentinel node biopsy is used to assist in determining the need for adjuvant therapy.⁸

▶WHAT ARE THE AVAILABLE TREATMENT OPTIONS?

Surgical excision with wide, clean margins can be curative in 70% to 90% of patients with early-stage disease.⁹ Narrower margins are proven to increase the rate of local recurrence but have no effect on metastases or survival.¹⁰ Surgical excision of local recurrence or metastatic disease is proven effective for long-term survival.⁸

Adjuvant therapy is utilized in patients who are disease-free but at high risk for metastasis of a deeply invasive lesion. In order to eliminate micrometastases, interferon alfa-2b (Intron A) is adminis-

TABLE 1. The screening ABCDEs for melanoma

Asymmetrical shape
Border is irregular, poorly defined, or scalloped.
Color varies; lesions can be tan, brown, white, black, blue, or red.
Diameter is larger than 6 mm.
Evolving size, shape, or color
Data from Swetter SM, ⁴ and Sober AJ et al. ¹⁰

tered. This adjuvant therapy is also administered to patients with stage IIb or III disease.^{6,8,9,10}

Granulocyte-macrophage colony-stimulating factor has been used in clinical trials involving patients at high risk of recurrence. The approved protocol shows that progression-free survival of patients with stage III or IV disease increased from 12 to 37 months.⁸

Dacarbazine (DTIC-Dome) can be used alone as chemotherapeutic treatment of melanoma. However, the agent is not associated with significant improvement in survival or response rates in patients with stage IV melanoma.⁸ Dacarbazine and interleukin-2 are the only FDA-approved agents for treatment of stage IV metastatic melanoma.⁹

Radiation therapy can be beneficial for patients with ocular melanoma or lentigo maligna melanoma. Patients who are poor candidates for surgical resection and patients with nodular melanoma may also benefit from this treatment option.

Vaccines are still under investigation; both synthetic and autologous vaccines have been used in clinical trials. Angiogenesis inhibitors and cytotoxic agents are also being evaluated in clinical trials to determine their effect on survival in patients with metastatic melanoma.

Posttreatment surveillance aids in identifying possible recurrences. Recommendations include an annual physical examination with full skin examination and lymph node palpation.

▶WHAT ARE SOME EFFECTIVE PREVENTIVE MEASURES THAT CAN BE TAKEN?

Patients should minimize their sun exposure during the hours between 10 AM and 4 PM. Application of a sunscreen with UVA and UVB protection (SPF 15 or higher) every 2 hours will assist in protecting the skin. Patients need to be educated to avoid tanning beds. Wide-brimmed hats, clothes that block UV light, and sunglasses offer additional protection. Persons with a previous diagnosis of primary melanoma who change their sun-exposure patterns can diminish the chance of developing a second primary melanoma. Clinicians should check for suspicious skin lesions and refer patients with possible melanoma for biopsy. Patients should inspect their skin as well and tell their primary care provider about any suspicious lesions that are found or if any changes in an existing lesion are seen.¹¹ **JAAPA**

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