Cutaneous Melanoma

49

David Y. Johnson, Shilpi Wadhwa, and Frank E. Johnson

Keywords
Cutaneous Melanoma • Xeroderma pigmentosum • Genetic factor • Immunosuppression • Transplantation

The International Agency for Research on Cancer (IARC), a component of the World Health Organization (WHO), estimated that there were 160,177 new cases of cutaneous melanoma worldwide in 2002 (1). The IARC also estimated that there were 40,781 deaths due to this cause in 2002 (1).

The American Cancer Society estimated that there were 59,940 new cases and 8,110 deaths due to this cause in the USA in 2007(2). The estimated 5-year survival rate (all races) in the USA in 2007 was 92% for this cancer (2). Survival rates were adjusted for normal life expectancies and were based on cases diagnosed from 1996 to 2002 and followed through 2003.

There is a marked effect of race. Whites, particularly fair-skinned individuals, are at much higher risk than darker-skinned people. There is a marked effect of age as well, although young people are affected. Exposure to ionizing radiation, particularly in the form of sunlight, is a major risk factor. Genetic factors have been known for decades and specific genes have been identified. Patients with xeroderma pigmentosum, a disorder of defective DNA repair, have a greatly increased risk (3, 4). Skin morphology, including the presence of many pigmented nevi and congenital nevi, appears to confer risk. Immunosuppression, such as in organ transplant patients, increases the risk of melanoma (3, 4).

D.Y. Johnson • S. Wadhwa
Department of Internal Medicine, Saint Louis University Medical Center, Saint Louis, MO, USA

F.E. Johnson (✉)
Saint Louis University Medical Center and Saint Louis Veterans Affairs Medical Center, Saint Louis, MO, USA
e-mail: frank.johnson1@va.gov

Geographic Variation Worldwide

The people of mainly non-European origin have much lower rates of melanoma than do people of mainly European origin. The highest incidence is found in Australia, New Zealand, Scandinavia, Switzerland, and white populations of the USA, including Hawaii. The populations with the lowest rates are those of Southern and Eastern Europe and South America (3). Within the USA, the incidence of this cancer is lower in northern regions than in southeastern and south-central regions (5).

Surveillance Strategies Proposed By Professional Organizations or National Government Agencies and Available on the Internet

National Comprehensive Cancer Network (NCCN, www.nccn.org)

NCCN guidelines were accessed on January 28, 2012 (Tables 49.1–49.3). There were major quantitative and qualitative changes compared to the guidelines accessed on April 10, 2007.

American Society of Clinical Oncology (ASCO, www.asco.org)

ASCO guidelines were accessed on January 28, 2012. No quantitative guidelines exist for melanoma surveillance, including when first accessed on October 31, 2007.

F.E. Johnson et al. (eds.), *Patient Surveillance After Cancer Treatment*, Current Clinical Oncology,
DOI 10.1007/978-1-60327-969-7_49,

Table 49.1 Melanoma: stage 0 in situ

	Years posttreatment[a]					
	1	2	3	4	5	>5
Office visit[b]	1	1	1	1	1	1
Educate patient in monthly self skin examination						
Routine blood tests are not recommended						
Radiologic imaging is indicated to investigate specific signs or symptoms						
Follow-up schedule influenced by risk or recurrence, prior primary melanoma, and family history of melanoma and includes other factors, such as atypical moles/dysplastic nevi, and patient anxiety						

Source: Obtained from NCCN (www.nccn.org) on January 28, 2012 NCCN guidelines were accessed on January 28, 2012. There were major qualitative changes compared to the guidelines accessed on April 10, 2007

[a] The numbers in the table indicate the number of times the modality is recommended during the indicated year posttreatment

[b] At least annual skin examination for life

Table 49.2 Melanoma: stage IA–IIA (no evidence of disease after treatment)

	Years posttreatment[a]					
	1	2	3	4	5	>5
Office visit[b,c]	1–4	1–4	1–4	1–4	1–4	1
Educate patient in monthly self skin examination						
Routine blood tests are not recommended						
Radiologic imaging is indicated to investigate specific signs or symptoms; routine radiologic imaging to screen for asymptomatic recurrent/metastatic disease is not recommended						
Follow-up schedule influenced by risk or recurrence, prior primary melanoma, and family history of melanoma and includes other factors, such as atypical moles/dysplastic nevi, and patient anxiety						

Source: Obtained from NCCN (www.nccn.org) on January 28, 2012 NCCN guidelines were accessed on January 28, 2012. There were major quantitative and qualitative changes compared to the guidelines accessed on April 10, 2007

[a] The numbers in the table indicate the number of times the modality is recommended during the indicated year posttreatment

[b] At least annual skin examination for life

[c] History and physical examination with emphasis on nodes and skin

The Society of Surgical Oncology (SSO, www.surgonc.org)

SSO guidelines were accessed on January 28, 2012. No quantitative guidelines exist for melanoma surveillance, including when first accessed on October 31, 2007.

European Society for Medical Oncology (ESMO, www.esmo.org)

ESMO guidelines were accessed on January 28, 2012. No quantitative guidelines currently exist for melanoma surveillance, compared to the quantitative guidelines accessed on October 31, 2007.

Table 49.3 Melanoma: stage IIB–IV (no evidence of disease after treatment)

	Years posttreatment[a]					
	1	2	3	4	5	>5
Office visit[b,c]	2–4	2–4	1–4	1	1	1
Chest x-ray, CT, and/or PET/CT scan	1–2	1–2	1–2	1–2	1–2	0
Brain MRI	1	1	1	1	1	0
Educate patient in monthly self skin examination						
Routine blood tests are not recommended						
Radiologic imaging is indicated to investigate specific signs or symptoms; routine radiologic imaging to screen for asymptomatic recurrent/metastatic disease is not recommended after 5 years						
Follow-up schedule influenced by risk or recurrence, prior primary melanoma, and family history of melanoma and includes other factors, such as atypical moles/dysplastic nevi, and patient anxiety						

Source: Obtained from NCCN (www.nccn.org) on January 28, 2012 NCCN guidelines were accessed on January 28, 2012. There were major quantitative and qualitative changes compared to the guidelines accessed on April 10, 2007

[a] The numbers in the table indicate the number of times the modality is recommended during the indicated year posttreatment

[b] At least annual skin examination for life

[c] History and physical examination with emphasis on nodes and skin

European Society of Surgical Oncology (ESSO, www.esso-surgeonline.org)

ESSO guidelines were accessed on January 28, 2012. No quantitative guidelines exist for melanoma surveillance, including when first accessed on October 31, 2007.

Cancer Care Ontario (CCO, www.cancercare.on.ca)

CCO guidelines were accessed on January 28, 2012. No quantitative guidelines exist for melanoma surveillance, including when first accessed on October 31, 2007.

National Institute for Clinical Excellence (NICE, www.nice.org.uk)

NICE guidelines were accessed on January 28, 2012. No quantitative guidelines currently exist for melanoma surveillance, compared to the quantitative guidelines accessed on October 31, 2007.

The Cochrane Collaboration (CC, www.cochrane.org)

CC guidelines were accessed on January 28, 2012. No quantitative guidelines exist for melanoma surveillance, including when first accessed on November 24, 2007.

Table 49.4 Primary cutaneous melanoma

	Years posttreatment[a]					
	1	2	3	4	5	>5
Office visit[b]	1	1	1	1	1	1
Baseline laboratory tests and imaging studies are generally not recommended in asymptomatic patients with newly diagnosed primary melanoma of any thickness						
Regular clinical follow-up and interval patient self-examination of skin and regional lymph nodes are most important means of detecting recurrent disease or new primary melanoma; findings from history and physical examination should direct need for further studies to detect local, regional, and distant metastasis						
Surveillance laboratory tests and imaging studies in asymptomatic patients with melanoma have low yield for detection of metastatic disease and are associated with relatively high false-positive rates						

Source: Obtained from AAD (www.aad.org) on January 28, 2012
AAD guidelines were accessed on January 28, 2012. These are new quantitative guidelines compared to the guidelines accessed on January 14, 2008
[a]The numbers in the table indicate the number of times the modality is recommended during the indicated year posttreatment
[b]No clear data regarding follow-up interval exist, but at least annual history and physical examination with attention to skin and lymph nodes are recommended

American Academy of Dermatology Association (AAD, www.aad.org)

AAD guidelines were accessed on January 28, 2012 (Table 49.4). There are new quantitative guidelines compared to the guidelines accessed on January 14, 2008.

The M.D. Anderson Surgical Oncology Handbook also has follow-up guidelines, proposed by authors from a single National Cancer Institute-designated Comprehensive Cancer Center, for many types of cancer (6). Some are detailed and quantitative, others are qualitative.

Summary

This is a common cancer with significant variability in incidence worldwide. We found consensus-based guidelines but none based on high-quality evidence.

References

1. Parkin DM, Whelan SL, Ferlay J, Teppo L, Thomas DB. Cancer incidence in five continents, Vol. VIII, International Agency for Research on Cancer, 2002. (IARC Scientific Publication 155). Lyon, France: IARC Press; 2002. ISBN 92-832-2155-9.
2. Jemal A, Seigel R, Ward E, Murray T, Xu J, Thun MJ. Cancer statistics, 2007. CA Cancer J Clin. 2007;57:43–66.
3. Schottenfeld D, Fraumeni JG. Cancer epidemiology and prevention. 3rd ed. New York, NY: Oxford University Press; 2006. ISBN 13:978-0-19-514961-6.
4. DeVita VT, Hellman S, Rosenberg SA. Cancer. 7th ed. Philadelphia, PA: Lippincott Williams & Wilkins; 2005. ISBN 0-781-74450-4.
5. Devesa SS, Grauman DJ, Blot WJ, Pennello GA, Hoover RN, Fraumeni JF Jr. Atlas of Cancer Mortality in the United States. National Institutes of Health, National Cancer Institute. NIH Publication No. 99-4564; 1999.
6. Feig BW, Berger DH, Fuhrman GM. The M.D. Anderson surgical oncology handbook. 4th ed. Philadelphia, PA: Lippincott Williams & Wilkins; 2006. paperback. ISBN 0-7817-5643-X.