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Multiple primary melanoma in the elderly

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Abstract

BACKGROUND: Few data exist regarding surveillance for multiple primary melanoma (MPM) in elderly patients or whether the incidence and risk factors are the same as for younger patients. Thus, we studied the frequency and characteristics of MPM in the elderly melanoma patients.

METHODS: From our prospective melanoma registry, we studied 222 consecutive patients aged 65 years or older at their initial melanoma diagnosis. Mean follow-up was 65 ± 3 months.

RESULTS: Median age was 76 years. Twenty-two patients (10%) developed a second primary melanoma and 8 (4%) of 3 or more primaries. 82% of second primaries (18 of 22) were the same or thinner than the index melanoma, yet 50% of third primary melanomas (4 out of 8) were thicker. Only prior dysplastic nevi ($P < .0001$) were a significant risk factor for MPM.

CONCLUSIONS: These data suggest elderly melanoma patients have a significant risk of MPM that warrants careful surveillance to facilitate prompt detection and treatment. Patients with dysplastic nevi merit special scrutiny.

The incidence of melanoma continues to increase more rapidly than that of other solid tumors. Over the past decade, the incidence of melanoma has increased by approximately 38%, whereas the death rate from melanoma has increased by 26%.[1,2] In 2014, an estimated 76,100 new cases of invasive melanoma and 63,770 cases of melanoma in situ were diagnosed in the United States, associated with a lifetime risk of melanoma of 1 in 34 for males and 1 in 53 for females.[1–3] Concomitantly, an increasing proportion of melanomas is being diagnosed at an earlier stage. The percentage of melanomas diagnosed as localized disease (current American Joint Committee on Cancer [AJCC] stages I and II) has increased from 47% to 84% over the past 25 years.[4,5]

As the US population continues to age, the median age of patients newly diagnosed with melanoma is increasing in parallel. Over the past 25 years, the incidence of melanoma has tripled for patients older than 65 years and 59% of all melanoma deaths now occur in this age group.[3,6,7] The life expectancy of a 65 year old is now 17 to 20 years and the number of US residents aged 65 years or older is projected to increase by 50 million between 2000 and 2050, further expanding the elderly melanoma patient cohort.[7,8]

Melanoma patients have an elevated risk for the development of subsequent primary melanomas; however, there is a lack of data on multiple primary melanoma

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(MPM) in the elderly patients and whether the incidence and risk factors are the same as for younger patients. The combination of increasing age at diagnosis of melanoma and increased life expectancy of the elderly patients suggests that there is now a significant clinical relevance to addressing this deficit. Information on incidence and risk factors for MPM in the elderly is important from both an individual and public health perspective regarding appropriate counseling and surveillance of older melanoma patients. Therefore, we undertook this study to examine the incidence and characteristics of MPM in melanoma patients aged 65 years or older.

Patients and Methods

After institutional review board approval, we identified 222 consecutive cutaneous melanoma patients prospectively entered into our melanoma registry with clinically localized disease who were aged 65 years or older at the time of the diagnosis of their index primary melanoma. Data were confirmed by review of pathology reports, operative notes, and medical records. All patients were followed for a minimum of 1 year after treatment or until death. Mean follow-up for all patients was 65 ± 3 months (median, 60 months) and 75 ± 4 months (median, 66 months) for surviving patients. Patients with recurrent disease presenting as epidermotropic metastases were carefully excluded from consideration as a second primary tumor by clinical and pathology review of all second (and subsequent) primary melanomas. Demographic, tumor, and treatment variables were analyzed.

Data are presented as proportions (percentages) or means ± standard errors of the mean unless otherwise stated. An SAS statistical package (JMP 10.0; Cary, NC) was used for data analysis. The chi-square and Fisher exact tests were used for analysis of categorical variables. One-way analysis of variance and the Student *t* test were used for analysis of continuous variables. *P* values of less than .05 were considered significant.

Results

We studied 100 female and 122 male patients aged 65 to 97 years (median age, 76 years). After a mean follow-up of 65 months, 36 patients (16%) had been diagnosed with recurrent disease of whom 8 (4%) were alive with disease and 28 (13%) deceased from melanoma. An additional 51 patients (23%) had died of other causes and the remaining patients were alive without evidence of disease. Twenty-two patients (10%) were diagnosed with a second primary melanoma. Eight second primary melanomas were classified as synchronous (recognized within 6 months of diagnosis of the index primary), and the other 14 were diagnosed at a mean (median, range) of 64 ± 12 (62, 7 to 131) months after the initial melanoma diagnosis. Of these 22 patients, 8 were diagnosed with a third primary melanoma and 2 with four primary melanomas.

The demographic and tumor features of the elderly solitary primary melanoma patients compared to the elderly MPM patients are summarized in Table 1. No patient demographic or tumor feature we evaluated was predictive of MPM with the exception of a prior histologically proven dysplastic nevus. There was a trend for family history of melanoma and earlier stage at presentation as risk factors for MPM, but neither achieved statistical significance. The index versus the second primary melanoma features are summarized in Table 2. Most of the second primary tumors (64%) were thinner than the index lesions, whereas 18% were the same thickness, the remaining 18% were thicker, and none were tumor stage III or IV. No second primary tumors were ulcerated. The site of the second primary melanoma was in a different body region than the initial melanoma in 16 of the 22 cases (73%) as presented in Table 3. Although the second primary melanomas generally were more favorable than the index melanoma, half of the third primary melanomas were thicker than the index melanoma, 25% were the same thickness, and 25% were thinner.

Comments

We report on the risk of a subsequent primary melanoma specifically for elderly melanoma patients, that is, those aged 65 years or older at the time of diagnosis of their index primary melanoma. In contrast, to the best of our knowledge, prior published reports on MPM have not focused on elderly patients, but have evaluated melanoma patients with a mean age of 40 to 58 years.[9–26] With the rising median age of newly diagnosed melanoma patients, a reflection of the increasing life expectancy of the population, information on the risk of MPM in the elderly is valuable. Such information can inform decision making regarding recommendations for disease surveillance and has public health implications.

After 5.4 years mean follow-up, 10% of our elderly melanoma patients were diagnosed with a second primary melanoma. This incidence of MPM is higher than that reported in most prior studies (1% to 9%) for patients unselected for age at diagnosis.[9–21,23,25–33] However, a large population-based study did report MPM in 20.4% of melanoma patients followed for a mean of 16.8 years after diagnosis, although 80% of patients were aged 60 years or younger at the time of diagnosis, and another reported an estimated 10-year risk of MPM of 12.7%.[24,34] Studies comparing solitary primary melanoma and MPM patients with respect to age at index diagnosis report variable findings. Several studies cite older patients as having a greater risk of MPM.[21,25,32,33] One study reported that the risk of MPM for patients aged 70 years or older was more than double the rate observed in patients aged 40 to 49 years,[21] whereas another noted a significant increase in MPM in