The epidemiology of melanoma in populations of African-European descent has rarely been reported. The authors studied melanoma in the French West Indies (Martinique), where black Caribbeans and whites represented 96% and 4% of the population, respectively. Among the 85 cases of melanoma collected from 1976 to 1995, blacks represented 75% and whites, 25%. The average incidence rates were 1.48 and 0.9 per 100,000 per year in females and males, respectively. The sole of the foot represented 72% of the primary sites in blacks. Breslow's tumor thickness was >1.5 mm in 68% of the cases. The 5-year survival was 44%.

The incidence of cutaneous melanoma in white populations for the last 40 years has been rising more rapidly than that of most other cancers (1–7). Melanoma incidence is rarely reported in black people, while the incidence of melanoma in African Americans is known to be relatively low (1, 8).

The purpose of this review is to present the descriptive epidemiology of melanoma in black Caribbeans of African-European descent and in whites who have been living in the French West Indies (Martinique) for the last 20 years.

**MATERIALS AND METHODS**

**Geography**

Martinique is located in the Caribbean area, at a latitude of 14.5° north and a longitude of 63° west. The population was estimated at 324,832 in 1974, 328,566 in 1982, and 359,579 in 1992 (9). Black Caribbeans of African-American descent comprise 96 percent of the population, and whites of European descent comprise less than 4 percent.

**Data sources**

Data were collected from the cancer registries’ (Association Martiniquaise pour la Recherche Epidémio- logique en Cancérologie (AMREC)) database. Data concerning age, sex, and histologic type of cancers have been collected in the pathology laboratories and hospital services by the registry doctors, entered into the computer, and reported regularly (10). Between 1976 and 1995, 85 cases of melanoma were recorded. In this study, for most cases, values for sex, age, and the location of the primary melanoma and histologic data were checked in the medical file of the patient.

**Epidemiologic data**

Incidence rates were age adjusted to the world standard. The observed survival rate was calculated from the data in the cancer register concerning diagnosis and death. The sex ratio is the male/female ratio.

**RESULTS**

The average age-standardized incidence rates were 1.48 (standard deviation (SD), 0.9) per 100,000 per year.
TABLE 1. Location of cutaneous melanoma in the French West Indies (Martinique) from 1976 to 1995, according to sex and skin color

<table>
<thead>
<tr>
<th></th>
<th>Europeans</th>
<th></th>
<th>African-Europeans</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Females</td>
<td>Males</td>
<td>Females (276 cases)</td>
<td>Males (29 cases)</td>
</tr>
<tr>
<td>Foot</td>
<td>0</td>
<td>0</td>
<td>27</td>
<td>12</td>
</tr>
<tr>
<td>Lower limb</td>
<td>3</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Hand</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Upper limb</td>
<td>4</td>
<td>2</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Trunk</td>
<td>2</td>
<td>5</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Head and neck</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Mucous membranes</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Unknown</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>11</td>
<td>7</td>
<td>37</td>
<td>17</td>
</tr>
</tbody>
</table>

DISCUSSION

Since the early 1960s, increases in melanoma incidence have been widely reported in most white populations (1, 12, 13). Such an increase is not known or inconsistent in black populations (13, 14). Most reports on melanoma in populations of non-European origin concerned a low number of cases and did not show a convincing upward or downward trend (13, 14). Our data showed a very low incidence of melanoma in black Caribbeans, which is approximately the same as that in the US black population (14–16). Because of our low number of cases, trends in annual incidence rates would not be significant. The peak incidence of melanoma in our black population was found at 65 years. This age of occurrence is 10 years older than that in the white population, which is consistent with previous reports (17). The strong predominance of women was not reported previously in black populations (14).

We observed a very high proportion of melanomas of the sole of the foot, which is higher than previously described in black populations (8, 17–22). This could explain the thickness of primary tumors and the poor prognosis in our report, as foot melanomas are known to be diagnosed at a relatively advanced stage with a large proportion of thick tumors (8). It was recently suggested that the absolute risk of melanoma of the sole of the foot was similar in blacks and whites (23). This was not confirmed in our study, but the small number of melanomas in whites could represent a methodological artifact.

Our results confirm that incidence rates in whites are at least 6–7 times those of blacks in the same geographic location.
locales, as was previously reported (11, 24, 25). It was determined that the melanoma incidence in whites appears to be well related to the latitude of the country (11, 26). Hence, the low incidence of melanoma in whites in our study is surprising, as Martinique is a country of low latitude where more cases could have been expected, as in Australia or New Zealand (1). Nevertheless, the low number of patients constitutes an important bias in our study, and we could have an underascertainment of cases. These results could also be explained by differences in skin complexion between white populations of different countries and origins. Moreover, the type of sun exposure seems to be an important risk factor: intermittent, intense sun exposure may have a worse effect than regular exposure (1, 2). Chronic exposure, as assessed through occupational exposure, appeared to reduce the risk of melanoma (2). This could be an important feature, partly explaining our relatively low rates in people who have been exposed to the sun since their childhood and who usually present marked solar alterations of the skin. Our data showed that white men are at greater risk than are women, which is consistent with studies in most Caucasian populations (14, 27).

Among our white group, the pattern regarding anatomic sites showed that melanoma occurred mainly on the trunk in males and on the upper limbs in females. Although the very small size of our group makes any interpretation difficult, this is consistent with the increased tendency of melanoma at these two sites in the last four decades (1, 13, 28), probably because of altered sunbathing habits and different clothing styles.

The sex ratio of melanoma in our report is 0.55, whereas in most large series it is nearly 1:1. Comparable male/female ratios have been generally observed in low-risk areas such as Britain or France (1, 24, 29). Nevertheless, in our review, females tend to have a greater survival rate than do males, as usually reported (1, 11).

In conclusion, despite important biases due to the low number of reported cases, our study emphasizes the dramatic differences between racial groups in the patterns observed in melanoma epidemiology, the same patterns as described in the United States, where populations of different racial origins live in close proximity (14).

REFERENCES