# Age-specific Incidence Ratios in Malignant Melanoma in Turkey: Melanoma in Older People is Increasing

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In recent decades, cancer in older people has become an increasingly common problem worldwide, due to the increasing life-expectancy of the general population and the improved management of common cancers in most countries (1). According to Surveillance, Epidemiology and End Results (SEER) data from the USA, more than half of all cancers occur in people aged 65 years and older (1).

The incidence of cutaneous melanoma is rising steadily at a rate that is among the highest for any form of cancer (2, 3). Although the incidence of melanoma in younger populations appears to have stabilized, the rate continues to rise in older people (2, 3).

The aim of this study was to demonstrate the agespecific incidence ratios in Turkish melanoma patients.

# MATERIALS AND METHODS

Data were obtained from hospital-based registries of cutaneous melanoma cases admitted to the Institute of Oncology, University of Istanbul, from 1 January 1988 to 31 December 2007. Cancer cases were categorized into seven age groups: younger than 20 years, 20–29 years, 30–39 years, 40–49 years, 50–59 years, 60–69 years, and 70 years and older. Pearson's  $\chi^2$  test was used for analysis.

# RESULTS

A total of 1,131 patients diagnosed with melanoma were assessed in this study from 1988 to 2007.

The median age at diagnosis for melanoma patients was 52 years. Compared with SEER data (time-period 2000 to 2004), this was 7 years younger than US patients (Fig. 1). The distribution of age-specific incidence ratios over a period of 20 years in Turkey (Fig. 2) showed significant increases in the incidences of melanoma



*Fig. 1.* Age-specific incidence ratios per 100 individuals of Turkish melanoma patients for 1997 to 2007 (*black diamonds*) compared with SEER data from the USA, for 2000 to 2004 (*grey squares*).



*Fig. 2.* Relative distribution of age-specific ratios of melanoma patients in Turkey during a period of 20 years.

with increasing ages (p=0.033). In recent years the proportion of cancer patients in the population who are over 70 years of age has increased significantly.

# DISCUSSION

Melanoma is among the most rapidly increasing cancers in the USA (2, 3). Older men carry the highest melanoma risk in the USA and comprise an important group among those with melanoma. Not only did a large proportion of melanoma occur in individuals aged 60 years and over, but also, in the more recent period, rates of melanoma increased faster in those aged 60 years and over, especially in men. Hence, overall melanoma incidence rates in the USA may continue to rise for some time (3).

The median ages at diagnosis for melanoma patients in the SEER population-based cancer registries, including the time-period 1974 to 2003 were 51 years for 1974 to 1978, 52 years for 1979 to 1983, 55 years for 1989 to 1993, and 57 years for 1999 to 2003 (4). Thus the median ages of melanoma patients increase over the years. Similar findings were also found in the present study.

Between 1973 and 1997, 60,541 cases of invasive skin melanoma were diagnosed among white people residing in the SEER areas (3). In the early years, incidence among white males increased rapidly in most age groups. Rates continued to rise in the middle-aged and older-aged groups, while they tended to stabilize in the younger-aged groups in more recent years. The patterns among females were generally similar to those

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among males, although rates increased less rapidly in females in the early years; more recently, rates flattened in the middle-aged groups and appeared to increase in the younger-aged groups. A notable difference in the age-specific incidence patterns between males and females was that the rates among females, compared with males, were numerically higher for the age groups under 40 years, but lower for the age groups 40 years or older.

In conclusion, melanoma in older people has become increasingly common in recent years.

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