Cancer Statistics Digest

Mortality Trend in Japan with Special Reference to Birth Cohort—all Sites: (1960–2000)

In the series of Cancer Statistics Digest, Vol 33 No 1 through Vol 34 No 5, we have reviewed the mortality trends for cancer in each site, presented by age-groups and year of death. Recent increase in the volume of literature pertaining to birth cohort indicates the importance of this point of view. In this issue and some sequential issues, we will review cancer mortality with special reference to birth cohort.

We define a birth cohort as follows: (year of death) – (center of the 5-year age group). For example, those who died in the 50–54 years age group in the year 2000 were categorized in the 1948 (= 2000 – 52) birth cohort. This cohort includes all those who were born between 1946 and 1950; however, we have only used the center of the birth years as the index, such as the 1948 birth cohort.

As shown in Figs 1 and 2, the usual graphs with scale of the year of death were redrawn with the scale of the year of birth. Dotted lines are inserted at 5-year intervals from 1875 through 1995, and a pair of arrowheads indicates the 1930 birth cohort.

Figure 3 shows the mortality by birth cohort from 40–44 to 85+. Trends differed according to age groups. For the younger age groups—65 years and below for males and 80 years and below for females—later birth cohorts showed lower mortality. On the other hand, in the older age groups—70 years and above for males and 80 years and above for females—mortality was on a steep increase or was at least levelling off. Among the decreasing trends in the younger age groups, there were aberrations around specific birth cohorts: for males, the 1930 birth cohort has a higher mortality. For females, the 1950 birth cohort seemed to have a higher mortality; however, it was not apparent because the data were not available for the older age groups. There appeared to be another birth cohort around 1905, for both males and females, but the data were also limited—available only for subjects 55 years of age or older, because the data used here were from 1960 and later.

Among those younger than 40 years (Fig. 4), the decreasing trend was more apparent. Among those younger than 15 years, the birth cohorts around 1965 or 1970 appeared to have a higher mortality, and this was more apparent among females. For the 1930 birth cohort among males mentioned above, the trend was not apparent in the younger age group. Similarly, for the 1950 birth cohort among females mentioned above, the trend was not apparent.

Figure 1. Mortality due to malignant neoplasms (all sites) by year of death and year of birth—males.
Figure 2. Mortality due to malignant neoplasms (all sites) by year of death and year of birth—females.

Figure 3. Mortality due to malignant neoplasms (all sites) by year of birth—males and females, 40 years and above.

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Figure 4. Mortality due to malignant neoplasms (all sites) by year of birth—males and females, 0–39 years.