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Epidemiology of Thyroid Cancer

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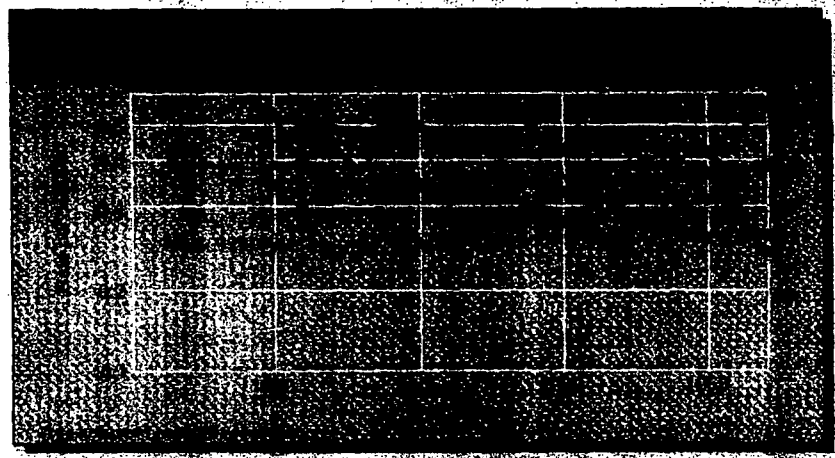
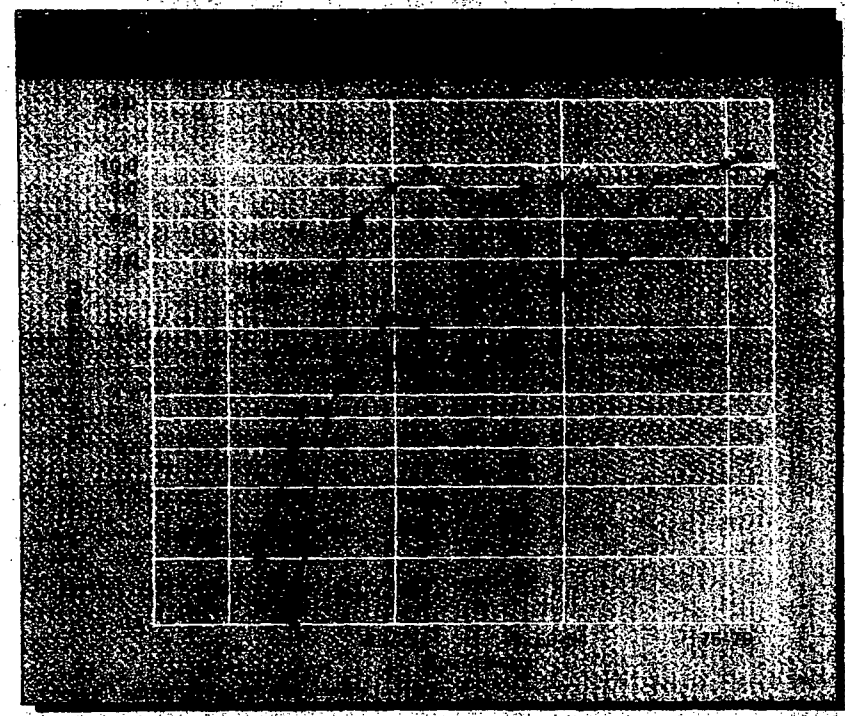
Thyroid cancer mortality in the United States in 1976 has accounted for approximately 1,150 deaths, or 0.5 percent of all cancer deaths in women and 0.2 percent in men.[1] The age-adjusted mortality per 100,000 in 1967 was 0.9 in non-white women, 0.6 in white women, and 0.3 in white men and 0.2 in non-white men.[2] The time trend analysis for age-adjusted mortality (1950-1967) indicated significantly decreasing mortality in white women and men. For non-whites, there were no significant trends in age-adjusted mortality (Figure 1). The female:male ratio of age-adjusted mortality rates was 2.0 in the white and 4.5 in the non-white populations.

For 1976, the American Cancer Society has estimated that there were 5,900 new cases of thyroid cancer in women and 2,200 cases in men. The average annual age-adjusted incidence rates per 100,000 as determined by the United States Public Health Service Third National Cancer Survey (1969-1971) were 5.2 in white women, 3.2 in black women, 2.2 in white men and 1.1 in black men. The age-specific incidence in white women peaks initially at the interval 30-34 years (9.6/100,000), and then again after 65 years (9.2-10.4/100,000). The age-specific incidence in white men tends to fluctuate, but the overall pattern is one of gradually increasing incidence with increasing age (Figure 2). A similar pattern suggesting bimodality is evident in the curve for age-specific incidence in black women (Figure 3).[3]

Although secular or temporal trends in the incidence of thyroid cancer are not available for the entire United States, they are provided by the population-based registries that are maintained by state health departments. The age-adjusted incidence in women, reported by the Connecticut Tumor Registry, increased from an average annual rate of 1.4/100,000 (1940-1949) to 4.0/100,000 (1970-1973), almost a threefold increase. The age-adjusted incidence in men increased from 0.6 (1940-1949) to 1.5/100,000 (1970-1973), a relative increase of 2.5 and similar to the trend noted in women (Figure 4). In both women and men, the increasing incidence during the past 25 years has been limited to persons under age 50 years (Figures 5 and 6).[4] Carroll et al.[5] reported in New York State that the age-standardized incidence rates for thyroid cancer more than doubled between 1941 and 1962. When the age-specific incidence rates were examined, the increases between 1941 and 1962 were limited to persons under age 55. Cohorts born after 1910 and before 1949 demonstrated a doubling of age-specific incidence with each successive decade of birth. The change in the cohort pattern after 1910 coincided with the administration of X-ray for thymic enlargement, oropharyngeal lymph-





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