
Preface

The American Cancer Society has estimated that in 2011, 48,020 new cases of thyroid cancer will be diagnosed in the United States, with three-quarters occurring in women. About two-thirds of the patients will be between the ages of 20 and 55. The disease will cause close to 1,740 deaths, of which 43% will be men. The overall 5-year survival rate is 97%, making it one of the least lethal cancers. The incidence of thyroid cancer has more than doubled over the last three decades, rising from 4.85 cases per hundred thousand people in 1975 to almost 12 cases per hundred thousand in 2007. This increase is seen exclusively in the well-differentiated thyroid cancers, which account for the vast majority of patients and carry the best prognosis. A good portion of this rise is due to increased detection of small tumors (microcarcinomas measuring less than 1 cm) because of the increased use of neck ultrasounds, CT scans, MRI, and PET scans, which detect these “incidentalomas.” This may account for the rise in the incidence of microcarcinomas, but does not adequately explain the fact that the incidence of larger tumors also is increasing, and this increase is occurring around the world. The rise does not appear to be related to the two known causative factors for well-differentiated thyroid cancer: radiation exposure or genetic predisposition. Thus, it is likely that environmental factors such as the amount of iodine intake, industrial toxins (e.g., plasticizers, fire retardants, and pesticides), and other unknown exposures may contribute to the rising incidence of thyroid cancer.

Although numerically less frequent than the differentiated thyroid cancers, medullary cancer of the thyroid, anaplastic carcinoma, and thyroid lymphoma are important tumors to know about because their prognosis is less favorable and their treatment generally requires a more aggressive approach.

The management of thyroid cancer has changed greatly over the last several decades with the advent of new imaging techniques, the improved detection of biomarkers, a marked increase in our understanding of the genetic abnormalities that result in or accompany oncogenesis, and the development of targeted therapies that take advantage of the known molecular defects that result in thyroid cancer. One of the positive developments has been the emergence of multidisciplinary teams devoted to the management of the disease.

The Cedars-Sinai Thyroid Cancer Center residing in our Samuel Oschin Comprehensive Cancer Institute is composed of endocrinologists, surgeons, oncologists, radiation therapists, nuclear medicine physicians, pathologists, radiologists, nurses, speech therapists, and psychiatrists all of whom have a subspecialty interest in thyroid cancer. The team has developed protocols for

the surgical management of patients and for determining who should or should not receive radioactive iodine or external beam radiotherapy, and have active clinical trials for patient management. Patients with complex or aggressive disease are presented at our monthly Thyroid Cancer tumor board, and continuing education is accomplished through a monthly Thyroid Cancer Grand Rounds. Since our Center is the only one for a wide geographic area, we see a large number of patients with thyroid nodules and cancer. Therefore, our medical students, residents, and fellows have extensive exposure to all aspects of thyroid disease. Both basic and clinical research is carried out under the Center's auspices.

When Shlomo Melmed, MD, Editor of the *Endocrine Updates Series*, and Springer Science+Business Media, LLC, invited me to edit a book on thyroid cancer, I readily agreed because I knew that I had a group of experts readily available within our Thyroid Cancer Center. Each was requested to write a chapter in their area of expertise, which together provides a broad overview and in-depth analysis of the current thinking in the diagnosis and management of differentiated, medullary, and anaplastic thyroid carcinoma, as well as thyroid lymphoma.

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