



THYROID CANCER

Controversies, consensus, and collaboration in the use of radioactive iodine therapy for the treatment of thyroid cancer

BACKGROUND

The 2015 American Thyroid Association management guidelines for thyroid cancer encourage more conservative use of radioactive iodine therapy as compared with prior guidelines. Indeed, radioactive iodine therapy is no longer recommended for most low risk thyroid cancers. This was based in part on a greater number of studies about thyroid cancer outcomes that showed little or no improvement of radioactive iodine therapy on the otherwise excellent prognosis of low risk thyroid cancers. These recommendations have been controversial and 2 prominent nuclear medicine organizations, the European Association of Nuclear Medicine (EANM) and the Society of Nuclear Medicine and Molecular Imaging (SNMMI), declined to endorse the guidelines.

In order to promote better understanding of differences in perspective, representatives from the American Thyroid Association (ATA) and the European Thyroid Association (ETA) met with representatives from the EANM and the SNMMI and to reach a more collaborative and consistent, evidence-based set of recommendations/guiding principles. This paper summarizes this groups efforts in reaching a consensus.

THE FULL ARTICLE TITLE

Tuttle RM et al 2019 Controversies, consensus, and collaboration in the use of 131I therapy in differentiated thyroid cancer: a joint statement from the American Thyroid Association, the European Association of Nuclear Medicine, the Society of Nuclear Medicine and Molecular Imaging, and the European Thyroid Association. *Thyroid* 29:461–470. PMID: 30900516.

SUMMARY OF THE STUDY

A 2-day meeting was held in Martinique in January 2018. A panel of 18 senior leaders and experts from 8 countries and 4 international organizations, including

the American Thyroid Association, convened to consider, debate, and exchange ideas regarding the use of radioactive iodine in the management of thyroid cancer. After much discussion and a review of 60 publications, in addition to expert opinion, the conference participants agreed on a set of nine principles, which are paraphrased as follows:

1. The best recommendations on thyroid cancer management requires cooperation between all of those involved in managing thyroid cancer patients, including endocrinologists, surgeons, nuclear medicine specialists and oncologists as well as the patients themselves.
2. Three goals of radioactive iodine therapy were defined as (a) destruction of remaining normal thyroid tissue, (b) therapy for suspected microscopic cancer or (c) treatment of known remaining cancer.
3. Proper patient selection for radioactive iodine therapy requires assessment of both pre-operative and postoperative thyroid cancer status.
4. Evaluation of postoperative thyroid cancer status should be standardized in terms of blood thyroglobulin levels and evidence of persistent cancer on imaging studies.
5. Proper patient selection for radioactive iodine therapy also requires evaluation of multiple factors, including patient preference, potential side effects, and availability and quality of medical resources.
6. The best administered dose of radioactive iodine for treating microscopic cancer cannot be determined from the available studies.



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7. Characteristics suggesting that patients may not respond to radioactive iodine therapy should be used to help determine the likelihood (or lack thereof) to respond but not to exclude them from consideration for radioactive iodine therapy.
8. The criteria for not responding to radioactive iodine therapy will continue to evolve, especially with progress in evidence-based studies, better standardized imaging, and other therapies.
9. Prospective studies are needed to address knowledge and evidence gaps with regard to radioactive iodine therapy.

WHAT ARE THE IMPLICATIONS OF THIS STUDY?

Defining the best use of radioactive iodine therapy in patients with thyroid cancer remains controversial, is subject to interpretation of evidence, and is influenced by many patient and health care delivery variables. Working together in the spirit of collaboration will help refine the use of radioactive iodine therapy within the patient-centered care of thyroid cancer.

— Alan P. Farwell, MD, FACE

ATA THYROID BROCHURE LINKS

Thyroid Cancer (Papillary and Follicular): <https://www.thyroid.org/thyroid-cancer/>

Radioactive Iodine Therapy: <https://www.thyroid.org/radioactive-iodine/>

ABBREVIATIONS & DEFINITIONS

Radioactive iodine (RAI): this plays a valuable role in diagnosing and treating thyroid problems since it is taken up only by the thyroid gland. I-131 is the destructive form used to destroy thyroid tissue in the treatment of thyroid cancer and with an overactive thyroid. I-123 is the non-destructive form that does not damage the thyroid and is used in scans to take pictures of the thyroid (Thyroid Scan) or to take pictures of the whole body to look for thyroid cancer (Whole Body Scan).

Papillary thyroid cancer: the most common type of thyroid cancer. There are 4 variants of papillary thyroid cancer: classic, follicular, tall-cell and noninvasive follicular thyroid neoplasm with papillary-like nuclear features (NIFTP).

Follicular thyroid cancer: the second most common type of thyroid cancer.

Evidence-based: any concept or recommendation that is derived from or informed by objective evidence, usually from the results of clinical trials

