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International Medical Specialist Society “Summit Meeting” agrees on Principles to Resolve Controversies in Managing Differentiated Thyroid Cancer

New Scientific Paper by Participants Gives Clinical Guidance and Proposes Research Directions to Improve Patient Care

(Vienna, 5 June 2019) Four international medical specialist societies, the European Association of Nuclear Medicine (EANM), European Thyroid Association (ETA), Society of Nuclear Medicine and Molecular Imaging (SNMMI), and American Thyroid Association (ATA), recently took an innovative approach to resolving clinical and scientific controversies affecting their fields, in this case, regarding the care of patients with differentiated thyroid cancer (DTC): a “summit meeting” among 18 expert clinicians and investigators officially representing the groups.

A scientific paper recently published in the medical journal *Thyroid* (1) proposes nine principles developed at the meeting. These principles provide clinical guidance and research direction for improving care of DTC patients, initially focusing on radioiodine therapy, being the most common medical treatment for DTC. “The meeting leading to this paper was organized following the release of the latest version of the ATA clinical practice guidelines. These guidelines brought a number of divergent views among thyroid cancer caregivers to the fore,” explains Prof. Markus Luster of the University of Marburg, Marburg, Germany, and an EANM representative at the meeting. “The discussions sometimes became heated,” says Dr. Ciprian Draganescu, “so my colleague at the University Hospital of Martinique, Dr. Patrick Bourget, and I had the idea to host a face-to-face discussion among expert physicians and other scientists to explore if consensus could be achieved.” This initiative eventually led to a “summit meeting” held 13–14 January 2018. The meeting was organized and funded without industry support. Meeting facilities were provided by the University Hospital of Martinique, and further expenses were covered by the participating medical societies.

Historically uncommon, but recently markedly increasing in frequency, DTC is an unusual cancer in many respects. For one, following appropriate treatment this cancer typically has a good prognosis, with a cure rate of more than 90% of patients. One reason for the favorable outcome is the generally slow and asymptomatic or minimally symptomatic disease course; another is the decades-long availability of radioactive iodine: a “targeted” therapy to supplement surgery and to treat inoperable disease: “DTC is referred to as ‘differentiated’ because the malignant cells retain properties of healthy mature thyroid cells,” explains Douglas Van Nostrand, Professor of Medicine at Georgetown University Medical Center in Washington, DC and team leader of the SNMMI delegation. “One of these properties is a much greater ability to collect and store iodine than is found in non-thyroid cells; the iodine is a key ingredient of thyroid hormones, which help regulate the body’s metabolism. For this reason, radioactive iodine destroys DTC cells while generally sparing non-target cells. So radioiodine typically has a much less toxic side effect profile compared to many other cancer treatments.”

Ironically, the good prognosis of DTC complicates efforts to develop and standardize diagnostic and therapeutic protocols and management guidelines for the disease, making divergent views likelier to arise among the medical and scientific community. “Since outcome is so often favorable and DTC so often progresses fairly slowly, studies comparing the effects of different interventions must include very large numbers of patients and years-long follow-up in order to be statistically and clinically meaningful,” says Prof. Laszlo Hegedüs of Odense University Hospital, Odense, Denmark, the “summit meeting” moderator. “As a result, there have been very few prospective studies, especially prospective, randomized studies, in DTC.”

In prospective studies, data collection is planned, and starts, before the outcome of the investigated intervention(s) has become clear. Findings of such studies are considered the strongest scientific evidence to guide clinical management.

The community treating DTC had to rely predominantly on retrospective studies, where an intervention’s impact is investigated after an outcome has occurred. Retrospective studies thus are more prone to bias and to discrepant interpretations. “Discussion focused on two areas,” notes Prof. Mike Tuttle, Memorial Sloan Kettering Cancer Center, New York, first author of the joint statement in *Thyroid*. “The initial area was optimizing processes for improving knowledge and ability to develop consensus. Indeed, the first of the nine principles in our paper relates to that. The principle calls for ‘proactive, purposeful, and inclusive inter-disciplinary cooperation’ among

‘clinicians, researchers, patients, and organizations.’ Patients are of course the most important stakeholders in the area of DTC or in any branch of medicine, and specialties such as nuclear medicine, endocrinology, surgery, and oncology all have unique insights and experience to contribute to DTC care.”

The second focus of discussion was radioiodine therapy, including why and when to use it, how much to give, and when to stop or avoid the modality due to lack of efficacy. “Through our discussions, we realized that we broadly agreed on the state of knowledge regarding radioiodine therapy and the implications for current practice,” states Prof. Luster. “There was strong consensus on promoting individualized, patient-centered decision-making regarding radioiodine therapy, especially in view of the lack of data generated by from prospective, randomized studies.”

“We also broadly agreed on particular clinical and scientific issues that should be resolved by prospective, randomized, controlled studies,” adds Prof. Hegedüs. “An important conclusion of the ‘summit meeting’, and of our paper, is that collaboration among our societies is the best way to bring about such investigation.”

Meanwhile, dialogue continues – a second ‘Martinique summit’ just took place. “In our latest meeting, it became clear that better understanding each other’s viewpoints, and agreeing on key terminology and definitions, have paved the road to expand collaboration,” Prof. Hegedüs adds. “This momentum should continue at a third meeting, planned for early 2020.”

1. Tuttle RM, Ahuja S, Avram AM, Bernet VJ, Bourguet P, Daniels GH, Dillehay G, Draganescu C5, Flux G, Führer D, Giovanella L, Greenspan B, Luster M, Muyllé K, Smit JWA, Van Nostrand D, Verburg FA, Hegedüs. Controversies, Consensus, and Collaboration in the Use of (131)I 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* 2019;29:461-470.

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