

ETA-CIRSE Guideline for the Use of Minimally Invasive Treatments in Malignant Thyroid Lesions

Giovanni Mauri

Abstract

The available information and the technical resources are rapidly evolving in malignant thyroid disease management. Thus, in 2020 the European Thyroid Association (ETA) and the Cardiovascular and Interventional Radiological Society of Europe (CIRSE) assembled a joint working group for developing joint guidelines for MIT in malignant thyroid lesions. Eighteen clinical practice recommendations for proper use of MIT in malignant thyroid lesions were developed,

The growing detection of papillary thyroid microcarcinomas (PTMCs) is paralleled by an increase in surgical procedures. Due to the frequent indolent nature, cost, and risk of surgery, active surveillance (AS) and ultrasound-guided minimally invasive treatments (MITs) are in suitable cases of incidental PTMC proposed as alternatives to thyroidectomy. Surgery and radioiodine are the established treatments for relapsing cervical differentiated thyroid carcinoma (DTC) metastases. But radioiodine refractoriness, risk of surgical complications, adverse influence on quality of life, or declining repeat surgery have led to AS and MIT being considered as alternatives for slow-growing DTC nodal metastases. Also, for distant radioiodine-refractory metastases not amenable to surgery, MIT is proposed as part of a multimodality therapeutic approach. The European Thyroid Association and the Cardiovascular and Interventional Radiological Society of Europe commissioned these guidelines for the appropriate use of MIT. Based on a systematic PubMed search, an evidence-based approach was applied, and both knowledge and practical experience of the panelists were incorporated to develop the manuscript and the specific recommendations. We recommend that when weighing between surgery, radioiodine, AS, or MIT for DTC, a multidisciplinary team including members with expertise in interventional radiology assess the

demographic, clinical, histological, and imaging characteristics for appropriate selection of patients eligible for MIT. Consider TA in low-risk PTMC patients who are at surgical risk, have short life expectancy, relevant comorbidities, or are unwilling to undergo surgery or AS. As laser ablation, radiofrequency ablation, and microwave ablation are similarly safe and effective thermal ablation (TA) techniques, the choice should be based on the specific competences and resources of the centers. Use of ethanol ablation and high-intensity focused ultrasound is not recommended for PTMC treatment. Consider MIT as an alternative to surgical neck dissection in patients with radioiodine refractory cervical recurrences who are at surgical risk or decline further surgery. Factors that favor MIT are previous neck dissection, presence of surgical complications, small size metastases, and <4 involved latero-cervical lymph nodes. Consider TA among treatment options in patients with unresectable oligometastatic or oligoproliferative distant metastases to achieve local tumor control or pain palliation. Consider TA, in combination with bone consolidation and external beam radiation therapy, as a treatment option for painful bone metastases not amenable to other established treatments.

The ETA-CIRSE guideline addresses the optimization of the use of innovative therapeutic tools in management of malignant thyroid lesions. Currently, MIT procedures may be considered for selected cases as alternative options to well-established treatments. Prospective randomized trials and long-term follow-up will provide more robust information on the correct use of these procedures. Availability and dissemination of MIT are current challenges.