Endocrinology -

EM-S01 Clinical Application of Ultrasonic Characteristic Quantitative Analysis in Thyroid Tumors

Ming-Hsun Wu

Department of Sugery, National Taiwan University Hospital

Thyroid cancer is one of the top ten cancers in Taiwan, and its incidence has recently increased. Ultrasound combined with fine needle aspiration (FNA) is the current diagnostic method for thyroid tumors. Up to 41% of people can find thyroid tumors, but the possibility of malignancy is low, accounting for only 9-14%. 30% of patients still cannot be diagnosed after FNA, and the test needs to be repeated. Thyroid ultrasound is used to help determine the need for FNA and to develop a treatment plan. However, ultrasonic images, at different times, or interpreted by different physicians, determine that the characteristics are inconsistent as high as 70%. We use computer calculation methods to quantify tumor characteristics and analyze their role in tumor diagnosis. The clinical application also shows that it can effectively improve the accuracy of diagnosis and reduce the variability of human interpretation. In addition, for follicular tumors whose FNA results are in the fourth Bethesda category, the diagnosis has its limitations. It can only be diagnosed by surgery, but nearly 80% of the pathology is benign. We found that the ultrasound characteristics of follicular benign and malignant tumors are different. Follow-up studies have also found that quantitative ultrasound indicators can assist this classification of tumors in risk stratification and reassessment to determine the necessity of surgical sampling.

Department of Otolaryngology, National Taiwan University Hospital and National Taiwan University College of Medicine, Taipei, Taiwan

Thyroid tumors have been frequently encountered clinically. Although most are benign, some of them require treatments because of clinical symptoms and esthetic concern. In addition to the ultrasound-guided surgical intervention, techniques including radiofrequency ablation (RFA), microwave ablation, and high-intensity focused ultrasound all afford minimal invasive approaches for treatments of thyroid tumors. The feasibility of these techniques had been demonstrated, and the safety and efficacy had been confirmed in literature. Success of tumor treatment without significant complications can be achieved, and also with favorable esthetic outcomes. Although in the current guideline, RFA is only suggested for recurrent thyroid cancer and the metastatic foci, its indications for other thyroid diseases including benign thyroid tumors are going to be established based on the work of many pioneers in these fields. To establish ultrasound-guided ablation as a standard alternative to surgery for many types of thyroid tumors, it is imperative to evaluate the potential efficacy and complications of these treatments, particularly for the otolaryngologists and head neck surgeons. Prospective randomized studies are suggested to be conducted to define eligibility criteria. It can be beneficial to evaluate the safety, long-term efficacy and complications, and cost effectiveness in the management of thyroid tumors mediated by ultrasound-guided intervention.

EM-S03

Radiofrequency in Benign Thyroid Disease: Real World Experience of Endocrinologist

EM-S02 Radiofrequency Ablation in Benign and Malignant Thyroid Disease: The Viewpoint of Otolaryngologist

Tsung-Lin Yang MD. PhD.

Wai-Kin Chan

Division of Endocrine & Metabolism, Internal Medicine, Chang Gung Memorial Hospital, Linkou

Thyroid radiofrequency ablation(RFA) is a newly emerging minimal-invasive technique for the

treatment of benign thyroid tumors in recent years. It uses thermal energy to cause tissue necrosis followed by the shrinkage of the ablated tumor. Thyroid RFA can effectively reduce the tumor volume without affecting patient's thyroid function. The compression symptom caused by thyroid tumor could be relieved without the risk of surgical intervention and skin scarring. Our team in Division of Endocrinology and Metabolism of Chang Gung Memorial Hospital (Linkou branch) had performed a total of 38 cases from February 2020 to January 2021. Here we share our experiences, the rate of tumor volume reduction and the complications encountered during our clinical practice.

EM-S04

From Sono-guided Liquid-based Cytology Survey to Radiofrequency Ablation in Thyroid Diseases

Wu-Lung Chuang MD. Chuanghua Christian Hospital

Abstract:

As technology and skills of ultrasound-guide procedure develop, there're more and more non-pharmaceuticaland less-invasive methods used to treat or diagnose various thyroid diseases. Fine-needle aspiration (FNA) is used for the presurgical differential diagnosis of thyroid malignancy and FNA with molecular testing for somatic mutations (e.g., BRAF) may increase the diagnostic accuracy for papillary thyroid carcinomaand prove more information for surgical decision making. In treatment of thyroid disorders, US-guided intrathyroidal injection of corticosteroids can be an effective method to treat painful thyroiditis if medical treatment is refractory and radiofrequency ablation(RFA) is also applied as a less invasive method to treat thyroid nodules and autonomously functioning thyroid nodule. These techniques can help patients to avoid surgery.

EM-P01

Submental Ectopic Thyroid in a Patient with an Orthotopic Thyroid Gland : A Case Report

Chee Wai Mak, Tu- Ting Kuo Department of Medical Imaging, Chi-Mei Medical Center, Tainan, Taiwan, Republic of China.

Background: Ectopic thyroid is a rare clinical disease, with the majority of patient presented with hypo-functional thyroid tissue and absence of orthotopic thyroid gland. It results from abnormal embryologic development and migration of the gland. If not recognized early, thyroid ectopia may cause diagnostic dilemmas and result in unnecessary workup.

Case presentation: A 59-year female presented with a submental swelling for 10 years. Sonography showed presence of multinodular goiter in the orthotopic thyroid but a hypoechoic nodule with internal vascular flow was seen at the submental region. Fine needle aspiration cytology (FNAC) from the submental nodule revealed that it was a case of colloid goiter in the ectopic submental thyroid.

Conclusion: Sonography and fine needle aspiration cytology is important in diagnosing ectopic thyroid particularly in the detection of the presence/absence of orthotopic thyroid, so that unnecessary operation or post operative hypothyroidism can be avoided. Another important thing is that as 70-90% of the patients with ectopic thyroid do not have a functional orthotopic thyroid, it is necessary to inform patients about the possibility of permanent hypothyroidism if surgical resection is considered.

Keywords: ectopic thyroid, submental, nodular goiter.