

Thyroid ultrasonography for personalized approach at thyroid nodules

Jin Young Kwak¹

Received: 4 January 2016 / Accepted: 1 February 2016 / Published online: 13 February 2016
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The widespread use of imaging has led to the detection of numerous thyroid nodules and proper management of these thyroid nodules has now become an important issue in the clinical field. Two major decisions have to be made to properly manage thyroid nodules. First, clinicians have to decide whether or not to perform fine-needle aspiration (FNA). Several guidelines have been published to aid this selection process which incorporates nodular size and ultrasound (US) features in patients without high risk factors such as the presence of abnormal lymph nodes [1–4]. Second, clinicians have to decide how to manage the nodules that do get aspirated by deciding whether to perform surgery or follow-up (clinical, US, or FNA).

Ianni et al. developed calculations for the CUT score using clinical and US features and FNA results from a previous meta-analysis performed by their research team [5, 6]. This meta-analysis was conducted with univariable analyses reported in other literature studies [5]. Although a multivariable analysis was not possible in their meta-analysis, an issue also directly discussed by Ianni et al. [5], not being able to perform a multivariable analysis limits the utility of the CUT score and clinicians must interpret the CUT score with caution. Clinical features included in the study were a family history of thyroid cancer, prior head and/or neck irradiation, and male gender [6]. One thing to note is that patients with prior head and/or neck irradiation are uncommon, as was seen in the prospectively

included data of the study. Moreover, in instances where nodules were of the same size and had the same findings on US, the gender of the patient may have no effect on the decision to perform FNA in actual clinical practice. Also, with the increase in the number of detected thyroid nodules, more patients will have a family history of thyroid cancer. Thus, future research must confirm what significant clinical factors should be considered as indications for FNA.

Although the Bethesda System for Reporting Thyroid Cytopathology (TBSRTC) has been implanted in clinical practice, cytology alone cannot be used to determine how to manage aspirated nodules [7]. According to TBSRTC, follow-up FNA is recommended for nodules with nondiagnostic or atypia of undetermined significance/follicular lesion of undetermined significance results and clinical follow-up is recommended for nodules with benign results. However, these nodules have different cancer risks according to their US features [8–10]. For nondiagnostic nodules, follow-up can be recommended when there are no suspicious findings on US [8]. TBSRTC recommends clinical follow-up for benign nodules, but follow-up FNA is required for benign nodules which have suspicious features on US [1, 9]. Therefore, US plays a twofold role for thyroid nodules. One, it helps the clinician determine which nodule should undergo FNA. Second, it determines which nodules need further management after FNA has been performed.

In summary, Ianni et al. provide a risk stratification system of thyroid nodules using clinical and US features. Their efforts to propose a trustworthy risk stratification system are commendable. Studies such as this one will contribute to the development of a better management algorithm for thyroid nodules, although additional studies on clinical factors are necessary.

✉ Jin Young Kwak
docjin@yuhs.ac

¹ Department of Radiology, Research Institute of Radiological Science, Severance Hospital, Yonsei University College of Medicine, 50 Yonse-ro, Seodaemun-gu, Seoul 120-752, Korea

Compliance with ethical standards

Conflict of Interest The authors declare that they have no conflict of interest.

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