



# Does ultrasonic elastography show high sensitivity in diagnosing benign and malignant thyroid nodules?

Jiangfeng Wu<sup>^</sup>, Yunlai Wang, Yun Jin

Department of Ultrasound, The Affiliated Dongyang Hospital of Wenzhou Medical University, Dongyang, China

Correspondence to: Jiangfeng Wu. Department of Ultrasound, The Affiliated Dongyang Hospital of Wenzhou Medical University, No. 60 Wuning West Road, Dongyang 322100, China. Email: wjfhospital@163.com.

Response to: Zhou Y, Chen H, Qiang J, *et al.* Systematic review and meta-analysis of ultrasonic elastography in the diagnosis of benign and malignant thyroid nodules. *Gland Surg* 2021;10:2734-44.

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We read with interest the recent article written by Zhou and colleagues entitled “Systematic review and meta-analysis of ultrasonic elastography (USE) in the diagnosis of benign and malignant thyroid nodules” (1). Zhou *et al.* highlight that USE has high value in the diagnosis of benign and malignant thyroid nodules. We thank the authors for such valuable evidence and would like to make several comments on this study.

First, in the abstract section of the article, the results of this study showed that the pooled sensitivity and specificity were 72.26% and 95.35%, and the area under the receiver operating characteristic curve (AUC) was 0.857, showing that USE has slightly high false-negative rate (27.74%). The missed diagnosis of thyroid cancer may result in metastasis of cervical lymph nodules or distant organs and lead to a threat to patient’s health. Then, we do not agree with authors about USE showing high sensitivity in the diagnosis of thyroid cancer and believe that USE could not be used for exclusion of malignant thyroid nodules completely.

Second, in the conclusions section, the authors expressed the view that USE could reduce the false negative cases. However, the present meta-analysis aimed to assess the value of USE diagnosing thyroid cancer, and did not compare the diagnostic performance between USE and other diagnostic methods such as routine ultrasound directly. Therefore, we consider that USE reducing the

false negative cases could not be confirmed on the basis of this study.

Third, in the last paragraph of the article, Zhou *et al.* Revealed that USE is an alternative diagnostic modality for patient who is not suitable for or rejects biopsy diagnosis. However, there is no quantitative comparison of the diagnostic performance between USE and biopsy in the main text. Fine needle biopsy is still the most effective and used method evaluating thyroid nodules (2). Then, we think that this conclusion is also not reliable.

Finally, the data in Table 2 were not consistent with the included studies. In Wang *et al.*’ study (3), 86 patients with 102 thyroid nodules were included, which were not consistent with 52 patients with 72 thyroid nodules in the Table 2. Furthermore, in Table 2, the number of sums of the true positive cases, false positive cases, false negative cases, and true negative cases is not consistent with the total number of cases in each study. In the inclusion and exclusion criteria section, articles which were randomized controlled trials (RCTs) were enrolled in this meta-analysis, however, the study design of Wang *et al.* is a diagnostic study. We believe that the data in this study should be further revised and verified for accuracy.

We make these comments only to promote the clinical utility of USE and recommend that the authors of similar such studies may take into account these additional points.

<sup>^</sup> ORCID: 0000-0002-5036-799X.

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