



Commentary: “Magnetic resonance elastography can predict the development of hepatocellular carcinoma: a meta-analysis and systematic review”

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We read with great interest the recent meta-analysis written by Wu and colleagues entitled “*Magnetic resonance elastography can predict the development of hepatocellular carcinoma: a meta-analysis and systematic review*” (1). The authors highlight magnetic resonance elastography (MRE) can be an effective diagnostic tool for hepatocellular carcinoma (HCC) and can provide strong support for the selection of clinical treatment methods and prognostic judgment. We strongly agree with the authors about the importance of the MRE, however, we have several comments on this article.

First, the meaning of the title is that MRE can predict the development of HCC, but, in this study, the authors aimed to evaluate the effectiveness of MRE in the diagnosis of HCC patients. Predicting the development of HCC and diagnosing HCC are two significantly different concepts. Therefore, we think the title of this article is not appropriate.

Second, this article is a systematic review and meta-analysis of diagnostic test accuracy studies; furthermore, true-positive, false-positive, false-negative, and true-negative values extracted for 2×2 contingency tables are one of the most important data (2). However, they were not referred to in this article. The risk ratio (RR) and mean difference (MD) were introduced in the statistics section of this paper. But, they are not suitable for a systematic review and meta-analysis of diagnostic test accuracy studies (2).

Third, the nine studies included in the heterogeneity

assessment showed significant heterogeneity ($I^2=92.44%$ for sensitivity, $P=0.00$; $I^2=67.86%$ for specificity, $P=0.00$).

Due to the significant heterogeneity, we think that meta-regression and subgroup analyses should be performed to explore potential sources of heterogeneity. The covariates such as country (China versus Korea), year of publication (2016–2017 versus 2018–2020), and sample size (>150 versus <150) might be taken into account when meta-regression and subgroup analyses are carried out.

Fourth, in this study, the pooled sensitivity and specificity were estimated at 64% and 85%, demonstrating that MRE has a high false-negative rate (36%) and should not be used for exclusion of HCC. But, in conclusion, the author demonstrated that MRE imaging has moderate sensitivity and excellent specificity in the detection of HCC, and can be used as a recommended diagnostic technique for HCC. We think that the conclusion might be not rational. On the basis of the overall results, patients suspected of HCC should be referred to more sensitive and specific diagnostic modalities.

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