Letter to the Editor

Adoption value of vacuum-assisted biopsy in diagnosis and treatment of breast lesions

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We thank Dr. Guo *et al.* for his comments on the systematic review and meta-analysis: value of ultrasound-guided vacuum-assisted biopsy in the diagnosis and treatment of breast lesions published in *Gland Surgery* (1). In the text, positive likelihood ratio (PLR) is the ratio of the true positive rate to the false positive rate of screening results. It indicates that the probability of positive correctly judged by screening test is a multiple of the probability of positive incorrectly judged. The larger the PLR, the greater the probability of true positive test results. Negative likelihood ratio (NLR) is the ratio of false negative rate to true negative rate of screening results, indicating that the possibility of misjudging negative is a multiple of correctly judging negative possibility. The smaller the NLR, the more likely it is to be true negative if the test result is negative. The abbreviation annotations in the abstract are wrong (the full names of PLR and NLR are annotated as platelet-lymphocyte ratio and neutrophil to lymphocyte ratio, respectively). We are sorry. However, the meanings and expressions of PLR and NLR in the text are correct. The theme of this study is "A systematic review and meta-analysis: value of ultrasound-guided vacuum-assisted biopsy in the diagnosis and treatment of breast lesions". The literatures related to the diagnosis and treatment of breast lesions by ultrasound-guided vacuum-assisted biopsy were searched when the articles were included. After searching, it was found that there are few relevant literatures on the treatment of breast lesions by ultrasound-guided vacuum-assisted biopsy, and the number of patients included is small, so a systematic meta-analysis is impossible. Therefore, the relevant content was deleted, and the results of the diagnosis of breast lesions by ultrasound-guided vacuum-assisted biopsy were mainly analyzed in detail.

In this paper, RevMan 5.3 software was used to analyze the data rate. For RevMan5.3 software, risk difference (RD) analysis was used when the samples conformed to normal distribution, and odds ratios (OR) analysis was used when samples did not conform to normal distribution (2,3). The data distribution of the rate in the paper does not conform to the normal distribution, so the OR combined with 95% confidence interval (CI) are used to analyze the data (1). In Figure 4, the sensitivity and specificity of ultrasound-guided vacuum-assisted biopsy for the diagnosis of breast lesions were mainly analyzed, so 95% CI was preferred for the analysis of the results.

In the meta-analysis, it is necessary to analyze the heterogeneity among the studies and explore the source of the heterogeneity. Meta-regression analysis can evaluate the magnitude and source of heterogeneity between studies. Meta-regression analysis is an extension of subgroup

analysis, which is mainly achieved by combining the effect sizes of multiple factors (4,5). Meta-regression or subgroup analysis was performed only when the number of studies included in the meta-analysis was more than 10 (6). However, the number of studies included in the analysis was only 10, which did not meet the conditions for meta-regression analysis or subgroup analysis. Therefore, no further meta-regression analysis or subgroup analysis was performed on the heterogeneity results in this paper.

In the meta-analysis, the generally used methods to identify publication bias include funnel plot method, the loss-of-safety method, the Begg rank correlation method, and the Egger regression method (7). In this paper, the Begg rank correlation method was used to analyze the publication bias of the included literature, and the results showed that the included literature had a low publication bias. Due to limited space, a detailed analysis of publication bias was not performed in the results section.

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Footnote

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Ethical Statement: The authors are accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

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