Regarding "Ultrasound-guided Microwave Ablation in the Management of Symptomatic Uterine Myomas: A Systematic Review and Meta-analysis"

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Dear Editor,

Uterine fibroids are the most common benign tumors in the female reproductive system. Most fibroids are asymptomatic, but they can cause certain obvious symptoms, such as menorrhagia, secondary anemia, and pelvic pressure [1]. To date, the primary treatment methods are gonadotropin-releasing hormone analogues, myomectomy, hysterectomy and
uterine artery embolization. However, the complications brought by these therapies are unacceptable to many patients. Therefore, minimally invasive and effective treatments based on the protection of the uterus have attracted more and more attention in recent years [2]. Recently, ultrasound-guided percutaneous microwave ablation has been widely used for treating certain symptomatic fibroids and has had satisfactory effects when used for intramural and submucosal fibroids. However, no systematic study has evaluated its use for subserosal uterine fibroids.

With great interest, we read the study entitled "Ultrasound-guided Microwave Ablation in the Management of Symptomatic Uterine Myomas: A Systematic Review and Meta-analysis" published in the recent issue of Journal of minimally invasive gynecology. In this paper, Liu et al. came to the conclusion that "Ultrasound-guided microwave ablation is an effective and safe minimally invasive therapy for symptomatic uterine myomas." Although the results are of great importance, we would like to underline some issues as to identification of the studies, screening process and data analysis that we feel ought to to be considered when interpreting these findings.

Firstly, the improper search strategy may result in the potential for selection bias influencing the generalisability of the study findings, and even incorrect conclusions. The authors stated that "we only included studies written in English or Chinese"; however, only English databases including PubMed, Web of Science Core Collection, Cochrane Library, Embase, Scopus, and Google Scholar were mentioned in the Methods, some important Chinese databases, such as Wanfang Data, China National Knowledge Infrastructure (CNKI), and Taiwan Electronic Periodical Services (TEPS) should also be searched.

Secondly, according to the Cochrane Handbook for Systematic Reviews of Interventions 5.0, a high inter-study heterogeneity makes definitive conclusions hard to draw, thus high heterogeneity in the outcomes is our biggest concern [4]. The authors stated that "If the $I^2$ values showed significant heterogeneity, the sensitivity and subgroup analyses were considered to have been performed." However, after reading the full text, we do not find that the authors effectively handled and explained the highly heterogeneous outcomes.

Finally, compared to the random effects model used by the author in the article, a model called Inverse Variance Heterogeneity (IVhet) could have been used as an improved
alternative to the random effects model [5]. Thus, we subsequently use the the IVhet model to re-analyze the outcomes in this meta-analysis. Fortunately, our outcomes are basically consistent with those given by the authors, which verifies the reliability of the conclusion to a certain extent (Figure 1 and Figure 2).

In conclusion, there is a value in summarizing the efficacy and safety of ultrasound-guided microwave ablation for the treatment of symptomatic uterine myomas in a meta-analysis; nevertheless, valid search strategy and methodological considerations should be adopted to avoid any inaccurate conclusions.

Declaration of interests
The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

References

Figure Legend
Figure 1: Forest plot of re-analysis for the comparison of UFS scores between baseline and
follow-up assessment.

Figure 2: Forest plot of re-analysis for the comparison of QoL scores between baseline and follow-up assessment.