



## Correspondence

# Comparison of magnetic resonance-guided high-intensity focused ultrasound with uterine artery embolization for the treatment of uterine myoma: Don't jump to conclusions



Dear Editor,

I read the paper by Jeng CJ et al. [1] regarding comparison of magnetic resonance-guided high-intensity focused ultrasound (MR-gHIFU) with uterine artery embolization (UAE) for the treatment of uterine myoma with great interest. In the first meta-analysis focus on the two minimally invasive treatment methods of uterine myoma, it concluded that published evidence suggests that the efficacy of MR-gHIFU may not be superior to that of UAE. But to the best of our knowledge, the conclusion remains to be discussed.

The study included only 4 studies, and two of them were reports from the same research population at different follow-up points. As the only included randomized controlled trial (RCT), the follow-up time of Study 1 was only 6 weeks [2]. In fact, Study 1 is currently the only RCT comparing MR-gHIFU and UAE in the treatment of uterine myoma [2,3]. Study 1 refers to Fibroid Interventions: Reducing Symptoms Today and Tomorrow study (FIRSTT Study) (NCT00995878, [clinicaltrials.gov](http://clinicaltrials.gov)), in which patients have been enrolled since April 29, 2010 and have been followed up for a long time. The data included in the meta-analysis is the preliminary report of the perioperative outcome of the two treatment methods in 2017 [2]. The purpose of the study was to summarize treatment parameters and compare recovery trajectory and adverse events in the first 6 weeks after treatment. Actually, it has reported the follow-up results of this population for up to 36 months after treatment thoroughly in 2019 [3]. Although the study also concluded that UAE provides a lower reintervention rate and greater symptom improvement than MR-gHIFU for uterine myoma, unfortunately, the meta-analysis did not include these very important data.

Although most studies have shown that patients in the MR-gHIFU group had a higher likelihood of re-intervention compared with UAE, there are several points that need special attention. First, unlike UAE, MR-gHIFU is used for the treatment of uterine myoma for a shorter period of time. At present, the surgical procedure for UAE treatment of uterine myoma has been well regulated, but MR-gHIFU treatment of uterine myoma is still largely affected by the experience of the operator. Secondly, the efficacy of MR-gHIFU in the treatment of uterine myoma is related to the equipment used and the frequency of treatments [4], but it is not

considered in this meta-analysis. Furthermore, although the MR-gHIFU group requires a higher rate of re-intervention, since MR-gHIFU is almost a non-invasive surgery, it can be repeated or chose to UAE. For example, in the FIRSTT Study, all subsequent procedures after UAE were hysterectomies, whereas secondary procedures after MRgFUS included hysterectomy, myomectomy and UAE [3], and some patients can still preserve the uterus and fertility.

Since no specific definition of adverse reactions is given, the reports on the occurrence rates of adverse reactions in the two treatments are various. As we all know, pain is the main postoperative complication of UAE and the reason that affects patients' discharge, while the probability and degree of pain in MRgFUS is much lower. As in the FIRSTT Study, compared with those having MRgFUS, women undergoing UAE were more likely to use outpatient opioid and nonsteroidal anti-inflammatory medications and to have a longer median recovery time [2]. Therefore, MRgFUS can be repeated many times, and patients are more acceptable. In addition, the cost of MRgFUS treatment is only one-third to one-half of UAE in China.

In conclusion, as a minimally invasive treatment method for the treatment of uterine myoma, MRgFUS has many own advantages, such as less trauma, low side effects, and repeatability. Which is better, MRgFUS or UAE, needs higher quality research to further confirm. But in fact, no matter what the result is, both MRgFUS and UAE have their own indications, and no one is necessary, and it is impossible to substitute for the other one.

## Conflict of interest

The authors have no conflicts of interest relevant to this article.

## Acknowledgments

This work was supported by a grant from the Medical Science and Technology Research Fund of Guangdong (NO. A2020244).

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