



Correction to: A feasibility analysis of the ArcBlade MR-guided high-intensity focused ultrasound system for the ablation of uterine fibroids

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The original version of this article has an error in the reference citation. The Reference 11–14 are indeed not suitable and have been corrected. In addition, Reference 26 and 33; Reference 29 and 32 are the same so it is also corrected with this correction. The corrected details are given below.

- (a) Page 1: In the 10th line, the second paragraph of under the heading “**Introduction**” should be changed from “Noninvasive high-intensity focused ultrasound (HIFU) ablation has emerged as an alternative option to surgery for uterine fibroids, offering minimal invasiveness without an incision that can be performed as a uterine-conserving outpatient treatment in most types of uterine fibroids [11–14].” to “Noninvasive high-intensity focused ultrasound (HIFU) ablation has emerged as an alternative option to surgery for uterine fibroids, offering minimal invasiveness without an incision that can be performed as a uterine-conserving outpatient treatment in most types of uterine fibroids [11–13].”
- (b) Page 2: In the 2nd line of Introduction section should be changed from “Compared to the uterine artery embolization, another minimalinvasive treatment option, HIFU is preferred if clinicians and patients have concerns for low vascularity fibroids, high risk for anesthesia/sedation, radiation exposure, impaired renal function, allergy to iodine contrast medium, bleeding tendency, or difficult vascular access [15–17].” to “Compared to the uterine artery embolization, another minimalinvasive treatment option, HIFU is preferred if clinicians and patients have concerns for low vascularity fibroids, high risk for anesthesia/sedation, radiation exposure, impaired renal function, allergy to iodine contrast medium, bleeding tendency, or difficult vascular access [12, 14, 15].”

- (c) Page 2: In the 5th line under the heading “**Introduction**” should be changed from “Localized ablation is achieved by concentrating acoustic waves at a focal point to cause heat and raise focal temperature to over 55 °C, without affecting the surrounding tissues [18, 19].” to “Localized ablation is achieved by concentrating acoustic waves at a focal point to cause heat and raise focal temperature to over 55 °C, without affecting the surrounding tissues [16, 17].”
- (d) Page 3: In the second paragraph under the heading “**Patients**” heading should be changed from “The diagnostic criteria for adenomyosis using MRI included (1) low signal intensity of myometrium, with indistinct margins and (2) diffuse or focal junctional zone exceeding 12 mm [20].” to “The diagnostic criteria for adenomyosis using MRI included (1) low signal intensity of myometrium, with indistinct margins and (2) diffuse or focal junctional zone exceeding 12 mm [18].”
- (e) Page 3: Under the heading “**Pretreatment screening and preparation**” should be changed from “Other pre-procedural preparations included an 8-h fasting period and enema administrations to exclude air and other possible obstacles (e.g., bowel loops anterior to the

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uterus), and abdominal and pubic hair shaving to allow the skin to connect with the ultrasound beam closely to prevent the skin burn [21–23].” to “Other pre-procedural preparations included an 8-h fasting period and enema administrations to exclude air and other possible obstacles (e.g., bowel loops anterior to the uterus), and abdominal and pubic hair shaving to allow the skin to connect with the ultrasound beam closely to prevent the skin burn [19–21].”

- (f) Page 4: Under the heading “**MRgHIFU treatment**” should be changes from “These temperature maps were calculated from raw data centered in the k-space matrix and based on the proton resonance frequency shift [24, 25].” to “These temperaturemaps were calculated from raw data centered in the k-space matrix and based on the proton resonance frequency shift [22, 23].”
- (g) Page 4: Under the heading “**Assessments and data analysis**”

i) “Classification of the benign uterine tumor by fibroid (i.e., subserosal, intramural, submucosal, or adenomyosis) and Funaki type was based on the signal intensity of the T2-weighted MR images [26].” should read as “Classification of the benign uterine tumor by fibroid (i.e., subserosal, intramural, submucosal, or adenomyosis) and Funaki type was based on the signal intensity of the T2-weighted MR images [24].”

ii) “The SF-36 questionnaire was used for evaluating quality of life as described in the previous research. Higher scores indicated better quality of life [27].” should read as “The SF-36 questionnaire was used for evaluating quality of life as described in the previous research. Higher scores indicated better quality of life [25].”

- (h) Page 5, 6 and 7: Under heading “**Discussion**”

(i) “Despite the non-invasive feature of HIFU, many limitations related to technique and mechanical design have prevented its widespread application [22, 28].” should read as “Despite the non-invasive feature of HIFU, many limitations related to technique and mechanical design have prevented its widespread application [20, 26].”

(ii) “Current MRgHIFU treatment protocols suggest an ablation rate (i.e., nonperfused volume [NPV] ratio) of 70–80% to achieve the desired treatment outcomes [21, 29].” should read as “Current MRgHIFU treatment protocols suggest an ablation rate (i.e., nonperfused volume [NPV] ratio) of 70–80% to achieve the desired treatment outcomes [19, 27].”

(iii) “The effectiveness of ArcBlate MRgHIFU seemed not to be inferior to that of other MRgHIFU systems,

which demonstrated mean fibroid volume shrinkage rates of 12.6–18.1% at 3 months [30, 31].” should read as “The effectiveness of ArcBlate MRgHIFU seemed not to be inferior to that of other MRgHIFU systems, which demonstrated mean fibroid volume shrinkage rates of 12.6–18.1% at 3 months [28, 29].”

(iv) “A higher NPV ratio was found to be correlated with greater tumor volume shrinkage. Keserci et al. discovered that if the NPV achieved a ratio of at least 90%, the mean fibroid reduction ratio would be as high as $54 \pm 13\%$ [31]. A report of 80 patients with leiomyoma suggested that a larger NPV ratio would result in greater shrinkage and improved relief of symptoms [32].” should read as “A higher NPV ratio was found to be correlated with greater tumor volume shrinkage. Keserci et al. discovered that if the NPV achieved a ratio of at least 90%, the mean fibroid reduction ratio would be as high as $54 \pm 13\%$ [29]. A report of 80 patients with leiomyoma suggested that a larger NPV ratio would result in greater shrinkage and improved relief of symptoms [27].”

(v) “According to the literature, treating Funaki type 3 fibroid tissue by HIFU is difficult because of high-vascularization which results in decreasing therapeutic effects of heating [23, 33, 34], yet our intramural case was identified to be Funaki type 3.” should read as “According to the literature, treating Funaki type 3 fibroid tissue by HIFU is difficult because of high vascularization which results in decreasing therapeutic effects of heating [21, 24, 30], yet our intramural case was identified to be Funaki type 3.”

(vi) “Despite the decreased estrogen level in this patient (49 years) who approached menopause may also have influenced the treatment outcome [35].” should read as “Despite the decreased estrogen level in this patient (49 years) who approached menopause may also have influenced the treatment outcome [31].”

(vii) “No real-time monitoring in thermal damage in tissue was one of the limitations in ultrasonography-guided HIFU therapy [36], while it could be resolved under MR guidance. Besides, patients having pelvic endometriosis, adhesions locating between the uterus and bowel, or > 10-mm abdominal surgical scar are not recommended to receive HIFU therapy [37]. However, one patient with adenomyosis in our study showed a lower shrinkage rate after 3 months than another study (our study vs. another study: 5.5% vs. 46.3%) [38].” should read as “No real-time monitoring in thermal damage in tissue was one of the limitations in ultrasonography-guided HIFU therapy [32], while it could be resolved under MR guidance. Besides, patients having pelvic endometriosis, adhesions locating between the uterus and bowel, or > 10-mm abdominal surgical

scar are not recommended to receive HIFU therapy [33]. However, one patient with adenomyosis in our study showed a lower shrinkage rate after 3 months than another study (our study vs. another study: 5.5% vs. 46.3%) [34].”

(viii) “[39] Considering the treatment outcome among patients by Funaki classification, quality of life scores in the type 3 cohort seemed to decrease slightly after the treatment,” should read as “Considering the treatment outcome among patients by Funaki classification, quality of life scores in the type 3 cohort seemed to decrease slightly after the treatment,”

(ix) “The most common adverse effect of HIFU treatment is skin burn [30, 39];” should read as “The most common adverse effect of HIFU treatment is skin burn [28, 35];”

(x) “Much research has shown that rectal and bladder filling are very useful practices for avoiding adverse effects and for mitigating bowelrelated side effects after MRgHIFU treatment [40, 41].” should read as “Much research has shown that rectal and bladder filling are very useful practices for avoiding adverse effects and for mitigating bowelrelated side effects after MRgHIFU treatment [11, 36].”

(xi) “In addition, endometrial ablation has been used to treat submucosal fibroids [42] but it may cause severe endometrial impairment and reduce possibilities of future pregnancy [43].” should read as “In addition, endometrial ablation has been used to treat submucosal fibroids [37] but it may cause severe endometrial impairment and reduce possibilities of future pregnancy [38].”

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