
Reply

We thank Huirne *et al.* for their interest in our work¹. We are delighted they read our study in such detail and congratulate them, not only on their input with this Correspondence, but also on their important contribution to the literature. We agree with the authors that other relevant variations in the uterine closure technique, including locking *vs* non-locking and interrupted *vs* continuous sutures, as well as inclusion *vs* exclusion of the endometrial layer in the suture, may affect the outcomes of the analysis. Our meta-analysis aimed to assess outcome differences in single- *vs* double-layer uterine closure at Cesarean delivery. We tried to describe in as much detail as possible all the techniques used in the nine original randomized controlled trials (RCTs) included in our study¹. Unfortunately, data regarding relevant variations in uterine closure techniques were missing in many of the included trials. For example, only one RCT² compared interrupted *vs* continuous suturing, and none compared exclusion *vs* inclusion of the decidua in the suture or locked *vs* unlocked sutures. Therefore, performing meaningful subgroup analyses looking at these variations was not feasible, but we have already planned to undertake such analyses in future studies.

The second concern of Huirne *et al.* was regarding the method and timing of niche assessment. Only one study², which included 100 women, evaluated the scar by hystero-graphy while the others used transvaginal sonography. Contrary to Huirne *et al.*'s assertion, we did report on the timing of follow-up at niche evaluation, as shown in Table 1 of our study (see column 'CD scar evaluation method').

The third point made by the authors was regarding four RCTs missing from our systematic review and meta-analysis. Unfortunately, existing search strategies for retrieving RCTs and meta-analyses from various databases are limited, and this may impact the findings of meta-analyses, especially with regard to publication bias and overreporting of positive trials³. We sincerely thank the authors for pointing out this issue. We have now added these four new RCTs (one of which was published after our meta-analysis was completed) to the pooled results of our meta-analysis. However, none of these trials reported data on the primary outcome of our study, i.e. Cesarean scar defect detected on ultrasound, or data on uterine dehiscence or rupture. Indeed, these RCTs reported only data on residual myometrial thickness (RMT) at different times of follow-up. After adding the new RCTs to our data, our findings for this outcome remained the same, i.e. compared with double-layer uterine closure, women who received single-layer closure had significantly thinner RMT on ultrasound (mean difference, -2.87 (95% CI, -3.11 to -1.21) mm).

Finally, Huirne *et al.* did not agree with the presentation and interpretation of the findings of our review. We agree that a RMT difference of 2.2 mm may be clinically relevant, however, more clinically relevant outcomes,

including the incidence of uterine scar defects detected on ultrasound – which was the primary outcome of our review – were not statistically different between the two study groups.

In summary, as also stated in our manuscript, we agree with Huirne *et al.* that before a final conclusion can be drawn on the optimal uterine closure technique following Cesarean delivery, further larger and better-designed RCTs with longer follow-up are required.

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References

1. Di Spiezio Sardo A, Saccone G, McCurdy R, Bujold E, Bifulco G, Berghella V. Risk of Cesarean scar defect following single- vs double-layer uterine closure: systematic review and meta-analysis of randomized controlled trials. *Ultrasound Obstet Gynecol* 2017; 50: 578–583.
2. Lal K, Tsomo P. Comparative study of single layer and conventional closure of uterine incision in cesarean section. *Int J Gynaecol Obstet* 1988; 27: 349–352.
3. Egger M, Smith GD, Phillips AN. Meta-analysis: principles and procedures. *BMJ* 1997; 315: 1533–1537.