

Placenta Previa Accreta and Previous Cesarean Section: Some Clarifications

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To the Editor: Placenta accreta (accreta, increta, or percreta) is challenging: effort to reduce its incidence is of paramount importance. We already know well that cesarean section (CS) increases the risk of accreta in the subsequent pregnancy; however, we do not know well what sort of CS is more/less likely to cause accreta. We read with great interest the article by Shi *et al.*^[1] CS without labor onset (elective) is more likely to cause placenta previa accreta than that after labor onset (emergent). We have some clarifications.

First, their study design was better than that of the previous study. To the best of our knowledge, Kamara *et al.*'s study^[2] was the largest that focused this issue. First, the study number of accreta cases was 141 and 65 in Shi *et al.*'s and Kamara *et al.*'s study, respectively. Shi *et al.* studied much more patients. Second, while Kamara *et al.* involved "at least one" previous CS, Shi *et al.* confined the study population to women with "one" previous CS. In fact, Kamara *et al.*'s study involved only 30 women with "one" previous CS. The number of previous CS is considered to affect accreta occurrence; and, thus, "only one" previous CS has made things simple. Then, we are impressed the strong similarity of odds ratio that both studies showed: 3 (95% confidence interval of 1.47–6.12) in Kamara *et al.*'s study and 3.32 (1.68–6.58) in Shi *et al.*'s study. This study confirmed that the prior elective CS (labor –) is three times more likely to cause placenta previa accreta than the emergent CS (labor +).

Second, although Shi *et al.* suggested several reasons for this phenomenon, their context is a little complicated. The lower uterine segment, the site to be cut, becomes thinner after labor onset. In elective (labor –) CS, hysterotomy is made more cephalad and it incises "thick" uterine portion, whereas in emergent (labor +) CS, hysterotomy is made more caudal and it incises "thin" portion: "cephalad and thick" versus "caudal and thin" characterizes the hysterotomy in elective versus emergent CS. In the former, the hysterotomy might "much more destroy" the uterine integrity, whereas, in the latter, it only makes "small opening" of the elongated lower segment. More simply, elective CS, compared with emergent CS, "scars the uterus much more." Pregnant women with prior labor (–) CS, compared with those with prior labor (+) CS, were more likely to have placenta previa^[3] and also thinner lower uterine segment^[4] in the subsequent pregnancy. More simply, "thick" incision, *i.e.* the higher degree of "scar," may more distort uterine

integrity, and is more likely to cause thinner lower uterine segment and placenta previa. Similarly, placenta accreta is more likely to occur at the "severer scar." In labor (–) CS, the greater the "scar" is, the greater its effect in the subsequent pregnancy might become.

Finally, we suggest some possible strategies to reduce the occurrence of accreta after elective CS. First, the timing of elective CS should be delayed after labor onset. However, this might increase the incidence of off-time (nighttime) emergent CS, which might cause some difficulties for institutes without 24 h-/7 day-coverage. An alternative is to perform oxytocin administration (or some controllable uterine contraction procedures) before CS and thereby change labor (–) CS to labor (+) CS. This has already been performed to reduce the neonatal respiratory adverse events associated with labor (–) CS: oxytocin infusion <8 h before elective CS significantly reduced it.^[5] How long and how strong uterine contractions are actually required to elongate the lower uterine segment has yet to be determined. Second, in elective CS, the incision should be more "caudal" than usual. In elective CS, we sometimes cut the upper edge of the lower segment or even the lowest end of the uterine body. More caudal incision might decrease the uterine damage. However, too much bladder separation might cause extra bleeding and might increase the incidence of bladder injury. These two are theoretical but might be reasonable, and, thus, might be worthy of further discussion.

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Conflicts of interest

There are no conflicts of interest.

REFERENCES

- Shi XM, Wang Y, Zhang Y, Wei Y, Chen L, Zhao YY, *et al.* Effect of primary elective cesarean delivery on placenta accreta: A case-control

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- study. *Chin Med J* 2018;131:672-6. doi: 10.4103/0366-6999.226902.
2. Kamara M, Henderson JJ, Doherty DA, Dickinson JE, Pennell CE. The risk of placenta accreta following primary elective caesarean delivery: A case-control study. *BJOG* 2013;120:879-86. doi: 10.1111/1471-0528.12148.
 3. Downes KL, Hinkle SN, Sjaarda LA, Albert PS, Grantz KL. Previous prelabor or intrapartum cesarean delivery and risk of placenta previa. *Am J Obstet Gynecol* 2015;212:669.e1-6. doi: 10.1016/j.ajog.2015.01.004.
 4. Jastrow N, Gauthier RJ, Gagnon G, Leroux N, Beaudoin F, Bujold E, *et al.* Impact of labor at prior cesarean on lower uterine segment thickness in subsequent pregnancy. *Am J Obstet Gynecol* 2010;202:563.e1-7. doi: 10.1016/j.ajog.2009.10.894.
 5. Abdelazim I, Farghali MM, Elbiaa AA, Abdelrazak KM, Hussain M, Yehia AH, *et al.* Impact of antenatal oxytocin infusion on neonatal respiratory morbidity associated with elective cesarean section. *Arch Med Sci* 2017;13:629-34. doi: 10.5114/aoms.2017.67292.