

Evaluation of the role of post-partum ultrasound of cesarean delivery scar on future obstetric management: A preliminary study

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Objective

To assess whether a standardized sonographic post-partum protocol of cesarean scar after cesarean delivery (CD) could be useful for obstetric management in subsequent pregnancies.

Methods

A retrospective cohort study was conducted to examine the anatomy of low-segment cesarean delivery scar using ultrasound imaging in patients with a history of CD before their next pregnancy(2020-2022). Their obstetric outcomes were compared with a historical control group (2017–2019) of patient with prior CD who did not undergo an assessment of their cesarean scar between pregnancies. All examinations were performed with transvaginal scan (TVS) and included the absence or presence of a cesarean scar defect (CSD). Maternal and neonatal characteristics and outcomes were compared between cases and controls.

Results

A total of 481 patients met the inclusion criteria (study group: 141; control group: 393). Major obstetric complications, including placenta accreta spectrum (PAS), uterine rupture, or dehiscence, were significantly more common in the study group than in the control group (8/131 (5.8%) vs 7/393 (1.7%); p = 0.029). No differences in neonatal Apgar scores were observed between the groups.

Conclusion

Implementation of a post-partum ultrasound follow-up for patients delivered by cesarean section enables accurate CSD detection before their next pregnancy using a standardized protocol. A CSD was associated with increased complication rates in the subsequent pregnancy, but its diagnosis did not improve overall obstetric outcomes. These findings suggest that surgical correction of CSD may not improve pregnancy outcomes in subsequent pregnancies.

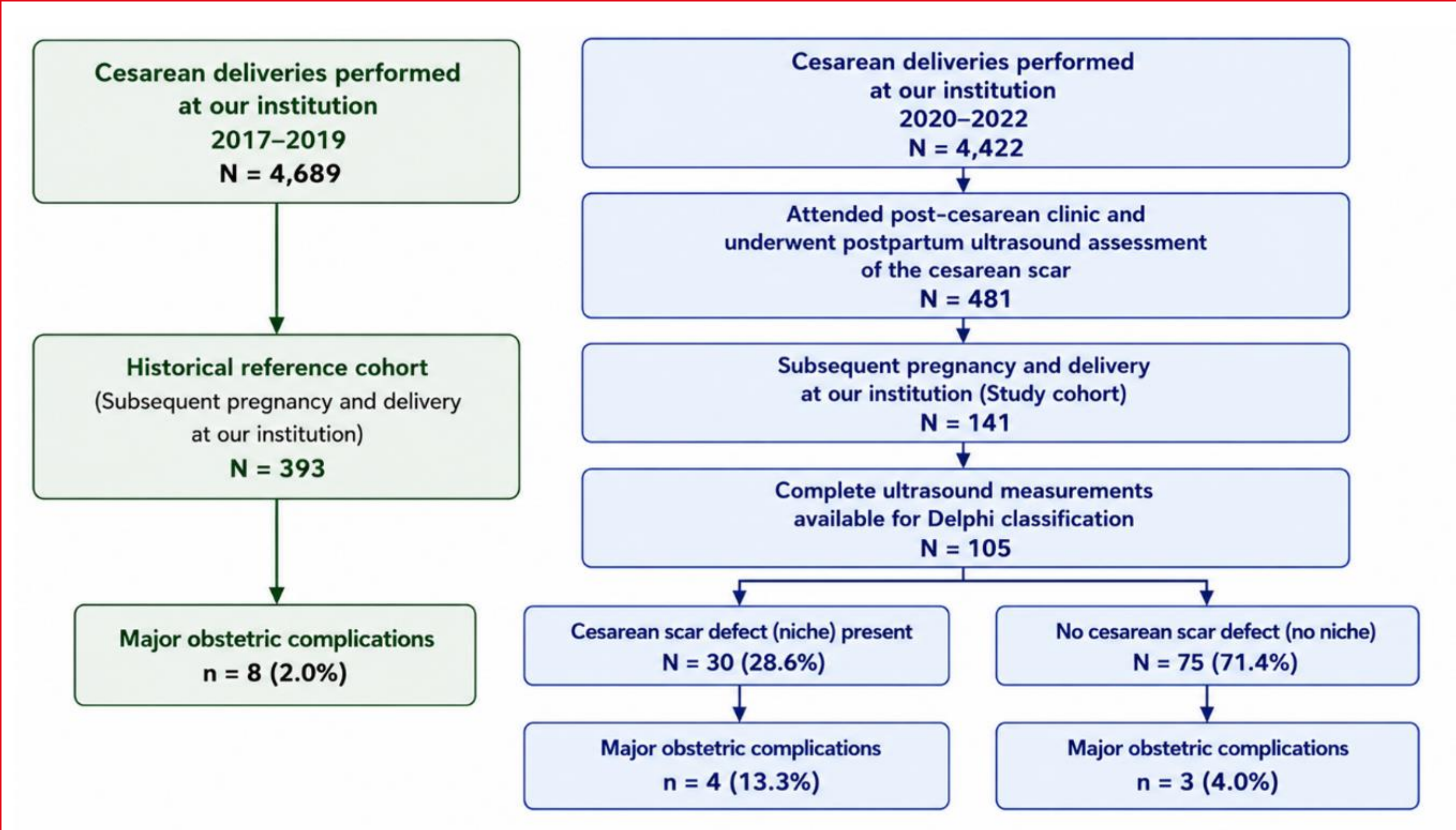


Figure 1. Flowchart illustrating cohort derivation. Between 2020 and 2022, 4,422 cesarean deliveries were performed, of which 481 women underwent postpartum ultrasound assessment and 141 subsequently conceived and delivered at our institution. Complete Delphi-based scar assessment was available for 105 women. The historical reference cohort included 393 women who delivered between 2017 and 2019 and subsequently conceived and delivered at our institution.