



Is the Cesarean scar defect related to pregnancy complications?

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Objective

To compare the prevalence of premature rupture of membranes, threatened preterm labor or preterm birth, uterine rupture, intrauterine fetal growth restriction or bleeding in pregnant women with and without cesarean scar defect (niche).

Methods

The presence or absence of a cesarean scar defect (niche) was evaluated by transvaginal ultrasound following the technique described by Naji in 2012 in 68 pregnant women who had at least one previous cesarean section between January 2016 and December 2017. Pregnancies that resulted in termination due to fetal anomalies were excluded from the analysis. The comparisons between the 2 groups included the maternal and fetal characteristics and the outcomes of the pregnancy and delivery using t-test, Mann–Whitney U- test, chi-squared or Fisher's.

Results

Niche was observed in 32 of 68 (47. 1%) patients. Characteristics of the two groups were compared (niche vs no niche): age (mean=34. 5 (\pm 4. 3) vs 35. 7 (\pm 4. 5); $p=0. 314$), BMI (mean=27. 2 (\pm 5. 7) vs 26. 7 (\pm 6. 4) $p=0. 768$), smoking status (12. 9% of smokers in the first group vs 5. 9% in the second, $p=0. 413$), number of previous cesarean sections (1. 66 (\pm 0. 79) vs 1. 72 (\pm 0. 94), $p=0. 946$), method of conception (3. 1% of assisted reproduction treatment in the niche group and no one in the absent-niche group, $p=0. 478$) and placental location (mainly posterior in the niche group and anterior in the no-niche group, $p=0. 931$). No significant differences were found. The prevalence of pregnancy complications was also compared: placental accretism, uterine rupture, threatened preterm labor, preterm birth, uterine rupture, intrauterine fetal growth restriction or bleeding. No cases of placental accretism or uterine rupture were reported. The mean gestational age at delivery was 38 (\pm 3. 5) in the niche group and 38. 1 (\pm 2. 1) in the absent-niche group. Preterm birth was reported in 4 patients (12. 5%) in the niche group and in 6 patients (16. 7%) and in the no-niche group ($p=0. 739$). Among these cases only 2 were spontaneous preterm birth, and both belonged to the niche-group. Preterm rupture of membranes occurred in 2 patients (6. 3%) in the niche group and in 2 patients (5. 6%) in the no-niche group ($p=1$). Threatened preterm labor was observed in 1 patient (3. 1%) in the niche group and in 3 patients (8. 3%) in the no-niche group ($p=0. 616$). No intrauterine growth restriction was observed in the niche group, while 2 cases (5. 6%) were described in the no-niche group ($p=0. 918$). Cesarean delivery was performed in 24 patients (75%) in the niche group and in 30 patients (83. 3%) in the absent-niche group. No significant differences were found between the two groups.

Conclusion

The presence of a cesarean scar defect (niche) in the sonographic examination does not increase the risk of pregnancy complications in our study. Maternal characteristics were not associated with the presence or absence of a cesarean scar defect. Our study has several limitations, first of all the small number of patients included. Some of the events are very rare, therefore a larger number of patients is needed to observe a significant difference. Moreover, the presence or absence of a niche was only described in high risk patients or when a significant niche was observed. It did not take into account the presence of niche in non-high-risk patients.