Perinatal outcomes of vacuum assisted versus cesarean deliveries for prolonged second stage of delivery at term
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Objective
We aimed to compare perinatal outcomes of interventions for prolonged second stage of labor.

Methods
Retrospective cohort study, in a single, university-affiliate, medical center (2007-2014). Eligibility: singleton gestations at term, diagnosed with prolonged second stage of labor and head station of S+1 and lower. We compared perinatal outcomes of cesarean deliveries (CD) with vacuum assisted deliveries (VAD).

Results
Of the 62, 102 women delivered during the study period, 3, 449 (5.6%) were eligible: 356 (10.3%) underwent CD and 3,093 (89.7%) underwent VAD. The rate of 5-minutes Apgar scores<7 was higher in the CD group as well as rates of NICU admission, neonatal asphyxia, and mechanical ventilation. Fracture of the clavicle was more prevalent in the VAD group. After adjusting for different confounders, when compared with VAD, CD was associated with adverse perinatal composite outcome (aOR 1.57, 95% CI 1.20-2.06, p=0.001), and VAD with cephalhematoma (aOR 3.92, 95% CI 2.46-6.18, p<0.001) and fracture of the clavicle (aOR 9.08, 95% CI 1.25-65.98, p=0.029). No other differences were found between the groups with regards to other traumatic outcomes.

Conclusion
Our data suggests that in deliveries complicated by prolonged second stage, cesarean deliveries yield poorer neonatal outcome than vacuum assisted deliveries, with no apparent major difference in traumatic composite outcome.