**Objectives**

Amnioinfusion (AI) relieves umbilical cord compression caused by oligohydramnios during pregnancy and labor. We report prophylactic AI for variable decelerations (VD) in umbilical cord compression without oligohydramnios as an early sign of deterioration.

**Methods**

We performed transabdominal AI for cases without oligohydramnios but with ultrasonography findings of umbilical cord compression (sandwich sign [SWS]) and variable decelerations (VD) in fetal heart rate. SWS shows localized oligohydramnios and a stuck umbilical cord (Figure 1). VD frequency and fetal Doppler flow velocity were evaluated.

**Results**

Thirteen cases and 21 AIs were analyzed. Nine cases (69%) were fetal growth restriction, 9 cases (69%) had umbilical hyper-coiled cords, mean gestational age (GA) at the first AI was 31.8 weeks, mean number of AIs was 3.6, mean GA at delivery was 34.6 weeks, and mean time until delivery was 20 days. VD frequency (4.0 vs 1.0; p < 0.0001), umbilical artery pulsatility index (1.27 vs 1.15; p < 0.01), and ductus venous pulsatility index (0.66 vs 0.48; p < 0.05) decreased and umbilical venous flow volume (121 vs 197 ml/min/kg; p < 0.05) increased significantly after AI. Umbilical artery diastolic blood flow abnormalities and umbilical venous pulsation improved.

**Conclusion**

Even if there is no oligohydramnios, AI might relieve umbilical cord compression, decrease vascular resistance of the umbilical artery, increase umbilical venous blood flow, and improve oxygenation. AI may be a new and promising treatment option to prevent adverse events including oligohydramnios and anhydroamnios.