



## Fetal MCA after cord occlusion in MC twins

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### Objective

To describe hemodynamic changes in the middle cerebral artery (MCA) of the live fetus in the first 24 hours after umbilical cord occlusion (UCO) in monochorionic twin pregnancies.

### Methods

Patients undergoing ultrasound guided UCO with bipolar forceps were included. Indications for UCO were twin-to-twin transfusion syndrome (TTTS) and selective intrauterine growth restriction (sIUGR). Peak systolic velocity (PSV) was measured in the fetal MCA before UCO (time -1), right after the procedure (time 0) and 1, 3, 6, 12 and 24 hours later (figure 1). MoMs were calculated for PSV adjusting for gestational age (GA). Paired T-test was performed to compare MoMs between time point -1 and time point 0, 1, 3, 6, 12 and 24, respectively.

### Results

Nine patients were included. Four cases had TTTS Quintero stadium 3 with UCO of the donor twin and five cases had severe sIUGR with abnormal Doppler. GA at procedure was 17.3–21.3 weeks. The MoM graph showed a trend of a small immediate decrease in PSV whereupon the velocity increased and stabilised close to the starting point after 24 hours. There were no MoM values  $\geq 1.5$ . Paired T-test showed no significant differences between the measures before surgery and at the different time points after ( $p = 0.08$  for -1 vs. 0,  $p = 0.17$  for -1 vs. 1,  $p = 0.48$  for -1 vs. 3,  $p = 0.23$  for -1 vs. 6,  $p = 0.69$  for -1 vs. 12 and  $p = 0.74$  for -1 vs. 24 hours).

### Conclusion

There were no significant hemodynamic changes in the MCA of the live fetus within 24 hours after UCO, nor any sign of acute anemia. The MoM graph showed a trend of small changes within the first hours after the procedure.

