



## Perinatal outcome following intrauterine blood transfusion in monochorionic twins

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### Objective

To determine the perinatal outcome of monochorionic twin pregnancies complicated by twin anemia polycythemia sequence (TAPS) and treated by intra-uterine blood transfusion.

### Methods

All monochorionic twins, diagnosed with TAPS between 2011 and 2015 at a single fetal therapy center, that underwent intra-uterine transfusion (IUT) were included. Neonatal mortality and morbidity were evaluated. Severe central nervous system (CNS) injury was defined as IVH grade 3-4, ischemic foci or periventricular leukomalacia.

### Results

During the study period, 225 monochorionic twins were followed in our center, of whom 60 underwent laser ablation due to twin to twin transfusion syndrome. TAPS was diagnosed in 15 cases. 10 of them were spontaneous and 5 occurred following laser surgery. Out of 12 patients diagnosed prenatally with TAPS, 7 cases were treated with intrauterine blood transfusion for the anemic twin. The median gestational age at diagnosis was 25.3 weeks of gestation (range 24-27) and the first IUT was performed at 27.4 weeks of gestation (range 25.1-29.3). Four patients required a second IUT 4 to 21 days after the first one. The median gestational age at delivery was 30 weeks of gestation (range 26.7-32.6) with an interval of 17 days (range 3-44) between the first IUT and delivery resulting in survival of 13 (93%) of the neonates. All of the polycythemic twins survived. Only two were complicated by severe CNS injury and only one of the anemic twins died following delivery at 26.7 weeks of gestation. None of the 6 anemic survivors suffered from severe brain injury.

### Conclusion

Monochorionic twin pregnancies complicated by TAPS diagnosed at late second trimester can be managed by performing IUT of the anemic twin allowing deferral of delivery and resulting in favorable neonatal outcome.