

Perinatal outcomes of monochorionic triplet pregnancies: Multicenter Cohort Study

Sileo FG^{1,2}, Khalil A¹ on behalf of MCTA TRIPLET PREGNANCY study group

¹ Fetal Medicine Unit, St. George’s University Hospital, London; ² University of Modena and Reggio Emilia



Objective

to investigate the risk of early and late pregnancy complications, perinatal outcomes and the timing and methods of fetal intervention in monochorionic triamniotic (MCTA) triplet pregnancies.

Design: retrospective cohort study including MCTA triplet pregnancies managed in 21 Fetal Medicine Centers across the world.

Methods: MCTA triplet pregnancies were included. Data on maternal age, mode of conception, diagnosis of major fetal structural anomalies or aneuploidy, GA at diagnosis of anomalies, TTTS, TAPS, TRAP, or sFGR, antenatal interventions (including selective reduction (3 to 2 or 3 to 1)) were retrieved. Perinatal outcomes included livebirth, IUD, NND, PND, TOP, GA at birth, birthweight, NICU admission, and neonatal morbidity were also collected.

Tab.1 – Survival according to complications. .

	No surviving fetuses	1 surviving fetus	2 surviving fetuses	3 surviving fetuses
Fetal structural anomaly affecting one fetus (n=16) [§]	4 (25)	2 (12.4)	5 (31.3)	5 (31.3)
Fetal structural anomaly affecting two fetuses (n=4) [§]	4 (100)	0	0	0
Fetal structural anomaly affecting three fetuses (n=1)	1 (100)			
TRAP (n=8)	2 (25)	2 (25)	4 (50)	N/A
TTTS treated with laser surgery (n=24)	10 (41.6)	5 (20.8)	8 (33.4)	1 (4.2)
TTTS, no laser surgery (n=18)	12 (66.6)	1 (5.6)	1 (5.6)	4 (22.2)
TAPS (n=2)	0	0	1 (50)	1 (50)
Post-laser TAPS (n=3)	1 (33.3)	1(33.3)	1 (33.4)	0
sFGR (n=25) [°]	0 (0)	3 (12)	5 (20)	17 (68)
No complications, expectant management (n=67)	10 (14.9)	3 (4.5)	4 (6)	50 (74.6)
Selective Fetal Reduction (3 to 2) (n=10)	2 (20)	1 (10)	7 (70)	N/A
Selective Fetal Reduction (3 to 1) (n=1)	0 (0)	1 (100)	N/A	N/A

Results

In our cohort of MCTA triplet pregnancies (n=153 after excluding early miscarriages/TOP/lost to follow-up), 90% were managed expectantly. The incidence of fetal abnormalities and TRAP was 13.7% and 5.2%, respectively. TTTS, complicated 27.6% of the pregnancies, followed by sFGR (16.4%), while TAPS occurred in only 3.3%; no antenatal complication was recorded in 49.3% of pregnancies. Survival was largely associated with the development of these complications as shown in Table 1. The overall rates of PTB< 28 weeks and <32 weeks’ gestation were 14.5% and 49.2%, respectively.

Conclusions

MCTA triplet pregnancies constitute a challenge in counselling, surveillance and management: monochorionicity-related complications occur in almost half of these pregnancies with a negative impact on perinatal outcomes.