

Normal fetal growth and birthweight in monochorionic vs dichorionic twin pregnancy

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Objective

- There is ongoing debate as to whether monochorionic (MC) and dichorionic (DC) pregnancies require different growth charts¹.
- We wanted to quantify fetal weight and birthweight in twins with different chorionicities when pathological factors are excluded.

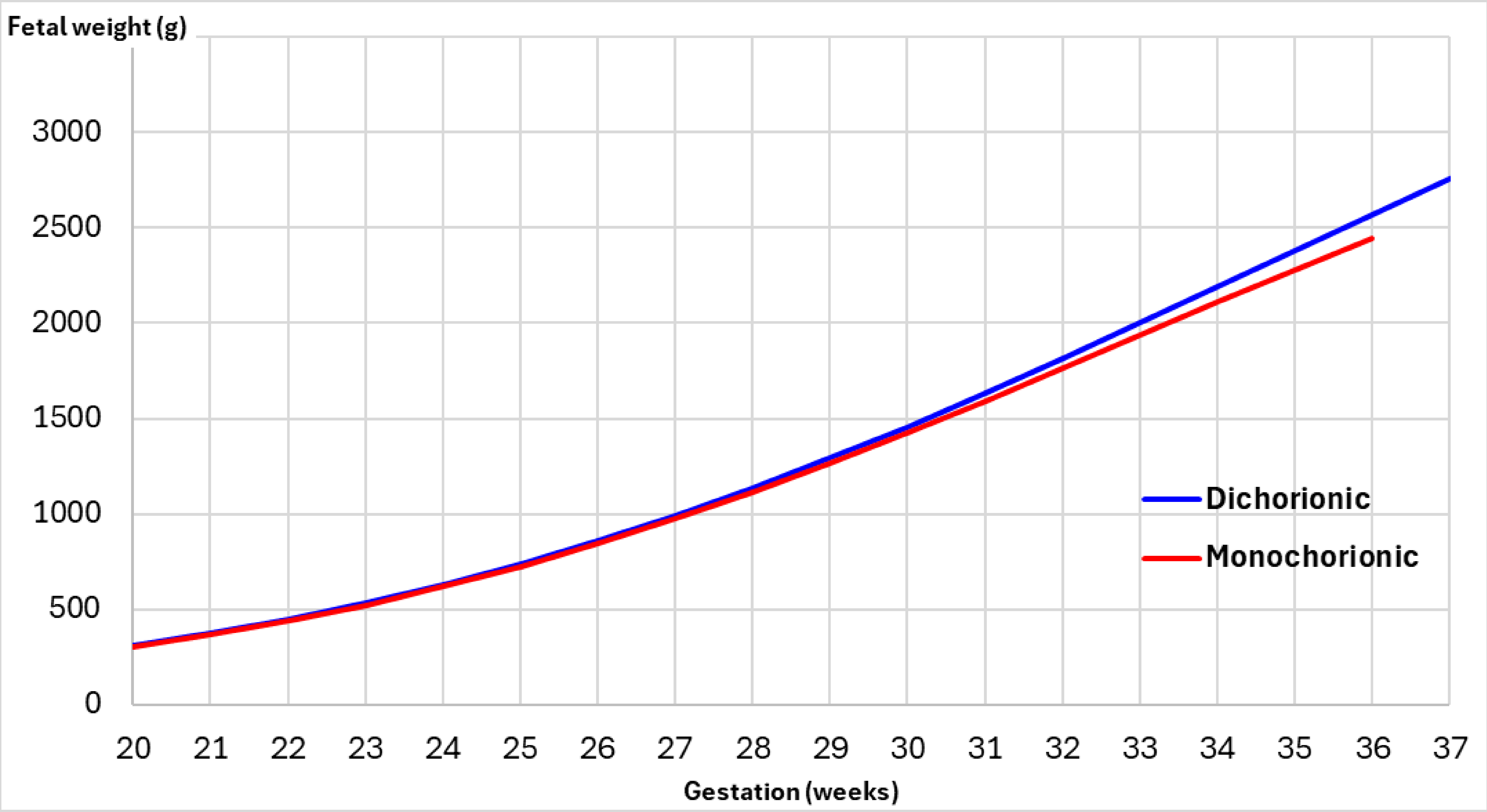
Methods

- Our cohort consisted of 2048 twins born in UK GAP trusts from 2023 – 2025
- We collected data on maternal characteristics, scan estimated fetal weight measurements and outcomes including gestational age and weight at birth
- Birthweights were compared using mixed-effects regression to quantify differences between MC and DC pregnancies after adjusting for confounders using a directed acyclic graph
- Fetal weight curves were modelled for each chorionicity using nested mixed-effects regression in pregnancies with 3 or more scans after excluding: preterm and post-term births (<33+0 and >36+6 in MC and <34+0 and >37+6 in DC pregnancies), twin-twin discordance (>25%) and stillbirth, and maternal factors: BMI < 18.5 and >30, age >40, smoking, hypertension and previous SGA babies.

	Monochorionic N=222		Dichorionic N=802	
Number of scans, mean SD	5.0	1.8	4.4	1.6
Gestation of birth, p50 IQR	35+5	15	36+5	12
<37 weeks, n %	209	94.1	437	54.5
<34 weeks, n %	51	23.0	101	12.6
Discordance >25%, n %	24	10.8	62	7.7

Results

- The study cohort included 222 (22%) MC and 802 (78%) DC pregnancies, with an average gestational age at birth of 35+5 and 36+5 weeks, respectively.
- Analysis at 36 weeks, after adjustment for confounders, showed a difference between MC and DC birthweight of -3g only (95% CI: -47.0 to 43.0).
- As shown in the **Figure**, the fetal weight curves overlapped until the MC trajectory started to decline from about 32-33 weeks.



Summary/Conclusion

After excluding pathological factors and adjusting for physiological variables, MC fetal growth appears to be similar to that in DC pregnancies, but is frequently complicated by late onset growth restriction. The results suggest that it is appropriate to use a dichorionic growth standard to monitor fetal growth of monochorionic twins.

Reference

- Hiersch L, Barrett J, Fox NS, Rebarber A, Kingdom J, Melamed N. Should twin-specific growth charts be used to assess fetal growth in twin pregnancies? Am J Obstet Gynecol. 2022 1;227(1):10–28. <https://www.doi.org/10.1016/j.ajog.2022.01.027>