

Comparative analysis of clinical progression in early-onset fetal growth restriction: dichorionic twin versus singleton pregnancies

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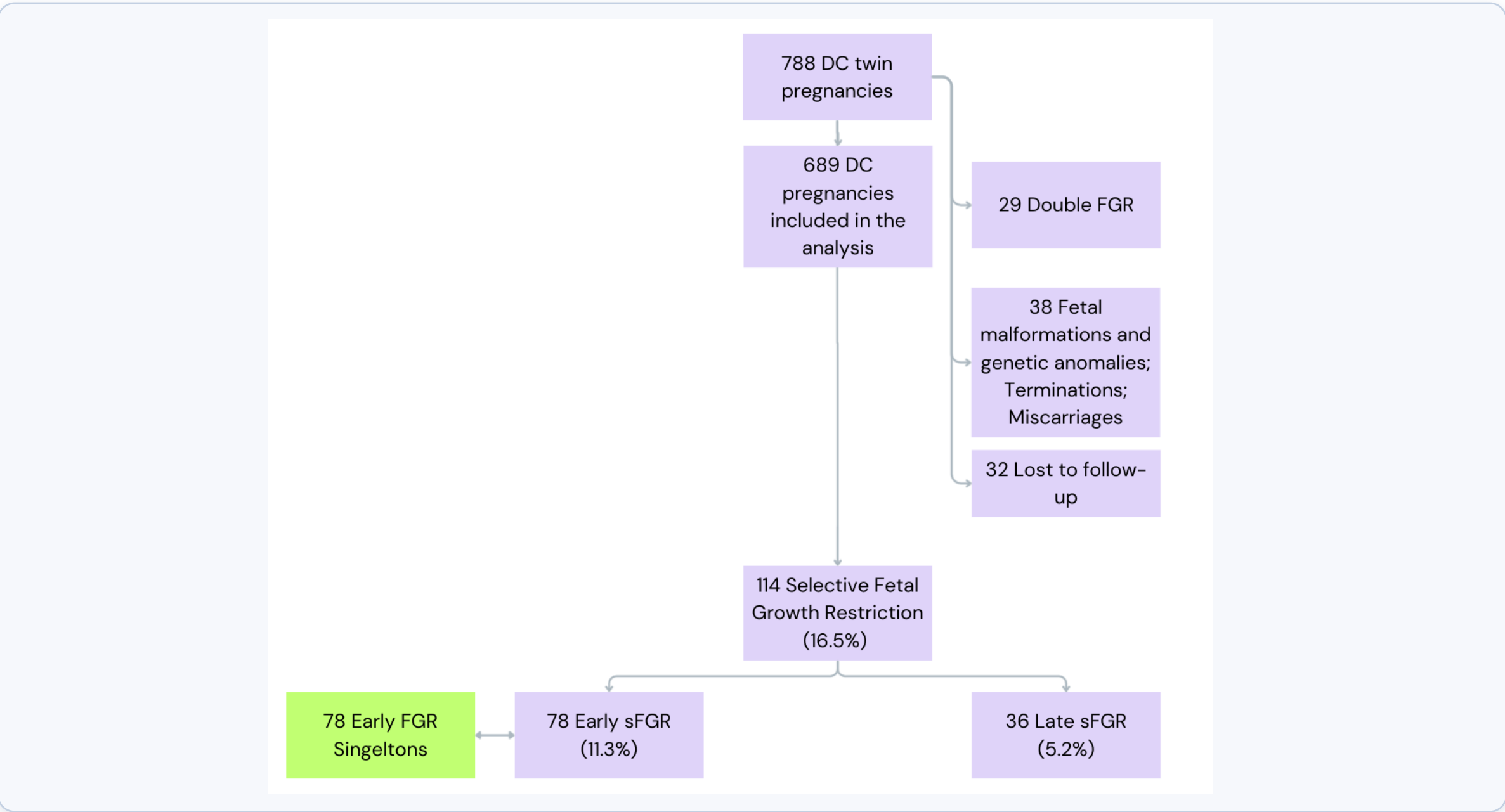
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BACKGROUND & OBJECTIVE

Clinical management of selective fetal growth restriction (sFGR) in dichorionic twin pregnancies is largely extrapolated from singleton FGR protocols, despite limited evidence on the temporal progression and sequence of Doppler changes specific to dichorionic twin sFGR.

Objective: to compare the progression of Doppler abnormalities and the perinatal outcomes of early-onset FGR between dichorionic twin and singleton pregnancies.

STUDY POPULATION



RESULTS

TWINS VERSUS SINGLETONS

	Twin sFGR (n = 78)	Singleton FGR (n = 78)	P
Gestational age at diagnosis (weeks)	24.5 (20–29)	25.8 (22.7–29.9)	0.07
Hypertensive disorders	18 (23.0%)	30 (38.5%)	0.037
Loss of UA-EDF	28 (35.9%)	30 (38.5%)	0.74
Diagnosis to loss of UA-EDF interval (days)	35 (24–56)	21 (10.5–41)	0.04
Total time with AEDF/REDF (days)	8 (2–40)	1 (1–7)	0.004
Gestational age at indicated delivery (weeks)	34.6 (32.6–36.1)	33.1 (30.6–35.6)	0.03
Diagnosis to delivery or IUFD interval (days)	59.5 (35–88)	46 (25–68)	0.007
Intrauterine fetal demise	7 (9.0%)	1 (1.3%)	0.06
Birthweight (g)	1421 ± 470	1410 (870–1712)	0.671
Neonatal mortality	2 (2.6%)	5 (6.4%)	0.246

Median (IQR) or mean ± SD; bold denotes significance. UA, umbilical artery; EDF, end-diastolic flow.

DELIVERY TIMING BY GESTATIONAL AGE AT DIAGNOSIS

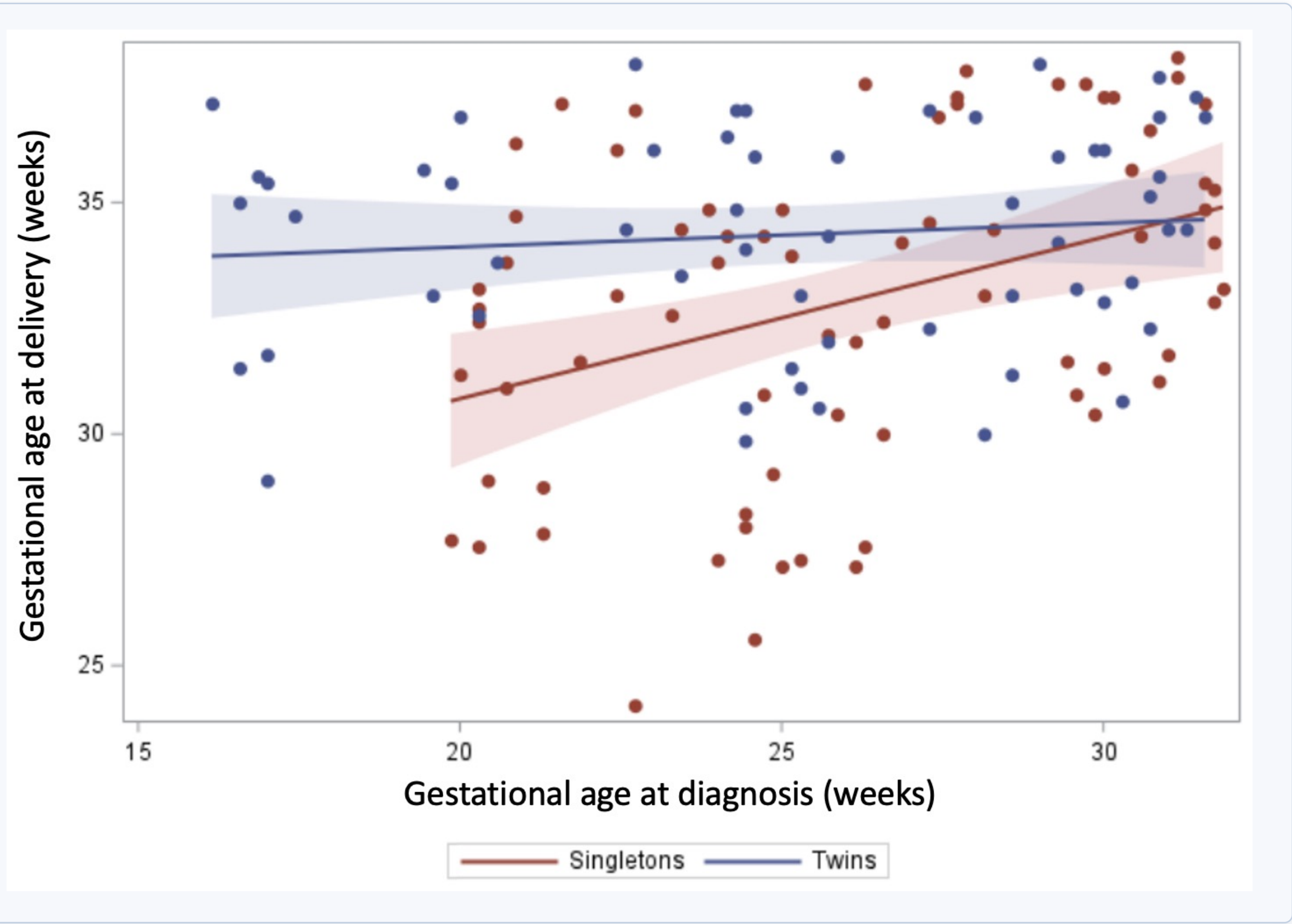


Figure 1. Gestational age at delivery in relation to gestational age at diagnosis and pregnancy type. The twin–singleton difference narrows as diagnosis occurs later.

MULTIVARIABLE ANALYSES

- Twin pregnancy independently predicted a later gestational age at delivery ($\beta = +9.96$; $p = 0.002$).
- That difference narrowed as diagnosis occurred later (interaction $\beta = -0.32$; $p = 0.008$).
- Cox regression: lower hazard of Doppler deterioration in twins (HR 0.50, 95% CI 0.27–0.92; $p = 0.025$).

INTER-TWIN DISCORDANCE AT DIAGNOSIS

	$\geq 25\%$ (n = 19)	$< 25\%$ (n = 59)	P
Gestational age at diagnosis (weeks)	19.4 (17–25.6)	25.3 (23.4–29.7)	<0.001
UA Doppler abnormalities	18/19 (94.7%)	40/59 (67.8%)	0.019
Loss of UA-EDF	14/19 (73.7%)	14/59 (23.7%)	<0.001
Gestational age at loss of UA-EDF (weeks)	24.5 ± 5.9	30.0 ± 4.1	0.017
Intrauterine fetal demise	6/19 (31.6%)	1/59 (1.7%)	<0.001
Gestational age at delivery (weeks)	33.0 ± 3.2	34.6 (32.6–36.1)	0.178

Discordance measured at diagnosis.

THE 7 CASES OF INTRAUTERINE FETAL DEMISE

- All 7 had reversed UA-EDF and an estimated fetal weight below the 1st centile before demise.
- 6/7 had an abnormal ductus venosus waveform and 6/7 oligo- or anhydramnios.
- 6/7 had inter-twin discordance $\geq 50\%$ at the last scan; demise occurred between 24+1 and 34+2 weeks.
- All parents were counselled and chose conservative management to avoid iatrogenic prematurity of the co-twin.

CONCLUSIONS

The natural history of early-onset sFGR in dichorionic twin pregnancies appears to be distinct from that of singleton FGR, with longer UA Doppler deterioration times and greater latency to deliver, suggesting that singleton-based monitoring and intervention criteria may not fully apply to dichorionic twin pregnancies. Inter-twin weight discordance $\geq 25\%$ identifies high-risk cases and should be incorporated into risk stratification.