

Donor growth restriction does not predict donor loss in cases of twin-to-twin transfusion syndrome treated with fetoscopic laser photocoagulation

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Objective

To determine whether donor growth restriction predicts donor loss in monochorionic diamniotic twin pregnancies with twin-to-twin transfusion syndrome (TTTS) treated with fetoscopic laser photocoagulation (FLP).

Methods

Retrospective cohort • 2013–2024
Population: MCDA twins with TTTS undergoing FLP

Primary outcome: donor loss before neonatal discharge

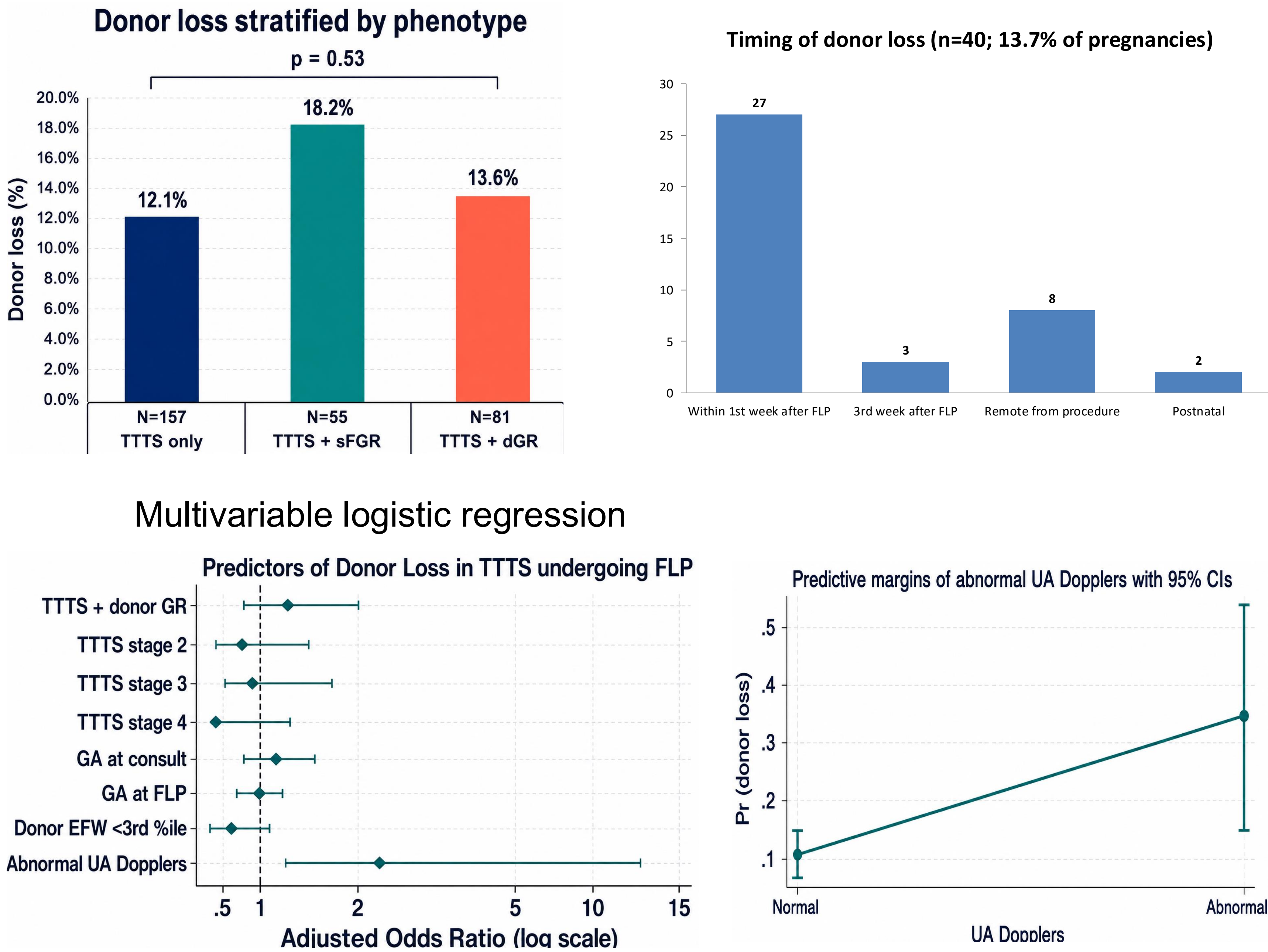
Multivariable logistic regression included donor EFW <3rd centile, abnormal donor UA Doppler, and other clinical covariates.

Cohort at a glance

- Two primary groups:
- TTTS only (donor estimated fetal weight [EFW] ≥10th centile)
 - TTTS with donor growth restriction (donor EFW <10th centile, irrespective of intertwin discordance).

GROWTH PHENOTYPES

COHORT AT A GLANCE			
TTTS only Donor EFW ≥10th centile	293 FLP procedures	20 wk median GA at procedure	
sFGR Donor EFW <10th centile + ≥25% discordance	34 wk median GA at delivery	46.4% donor growth restriction	
Isolated donor GR (dFGR) Donor EFW <10th centile + <25% discordance	72.4% dual survival	13.7% donor loss	



Conclusion

- Donor growth restriction does not independently predict donor loss after FLP for TTTS.
- Abnormal donor UA Doppler was the strongest independent predictor of donor loss, suggesting that hemodynamic assessment may be more informative than size-based criteria for risk stratification.

Donor growth restriction was not an independent predictor

aOR 1.52

95% CI 0.69–3.35
p = 0.29

Donor EFW <3rd centile was also not predictive of donor loss

Abnormal donor UA Doppler independently predicted donor loss

aOR 4.64

95% CI 1.65–13.03
p = 0.004

Abnormal donor UA Doppler was present in 11.6% of cases.

- FINDINGS
- Donor loss was highest in TTTS+sFGR category though the rate did not differ significantly across growth phenotypes.
 - Growth criteria identify a smaller donor but do not independently capture the hemodynamic abnormalities associated with donor loss.
 - Prioritize donor UA Doppler findings when counseling families and estimating donor risk after laser therapy.