

Optimal timing of delivery in suspected late growth restricted fetuses at term: are 37 and 39 weeks valid cut-offs?

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Background

Optimal timing of delivery for late growth restricted fetuses (FGR) at term is a challenge to obstetricians. Many fetuses are constitutionally small and therefore are not at risk of poor pregnancy, neonatal and long- term outcomes, differently from those who are small due to placental insufficiency and might benefit from delivery prior to the pregnancy due date. In view of the perceived low risk of late pregnancy prematurity clinicians tend to recommend delivery at early term for babies who have suspected late FGR due to risk of stillbirth or severe abnormal outcome Recent evidence shows that appropriate antenatal classification and management can identify babies at high risk of abnormal outcome who might benefit from earlier delivery whereas low risk babies can be managed conservatively until 40 weeks.

Methods

This is a prospective cohort study at a tertiary level hospital. Singleton pregnancies over 32+0 weeks referred to the late fetal growth restriction clinic between February 2018 and December 2022 were included. Fetuses were classified into high risk (those at high risk of placental insufficiency) or low risk (those at low risk of placental insufficiency). These were subsequently split into those delivered early (between 37+0 to 37+6 in the high risk cohort and between 37+0-38+6 in the low risk cohort) and those delivered late (38+0 and over in the high risk cohort and 39+0 and over in the low risk cohort). The primary outcome assessed was severe adverse neonatal outcome. Mild adverse neonatal outcomes and maternal adverse outcomes were also assessed.

Summary of outcomes

A total of 1103 pregnancies were included in the analysis with comparable maternal characteristics in the high-risk cohort. In the low-risk cohort, there were differences in some variables which were adjusted for in downstream analysis

- There was no significant difference in severe adverse outcomes in both the high and low-risk cohorts
- Mild adverse outcomes were significantly higher in the early delivery groups both high and low-risk cohorts
- Overall adverse outcomes were higher in the early delivery groups in both high-risk and low-risk cohorts

Chart 5 – Low risk: severe adverse outcome (overall)

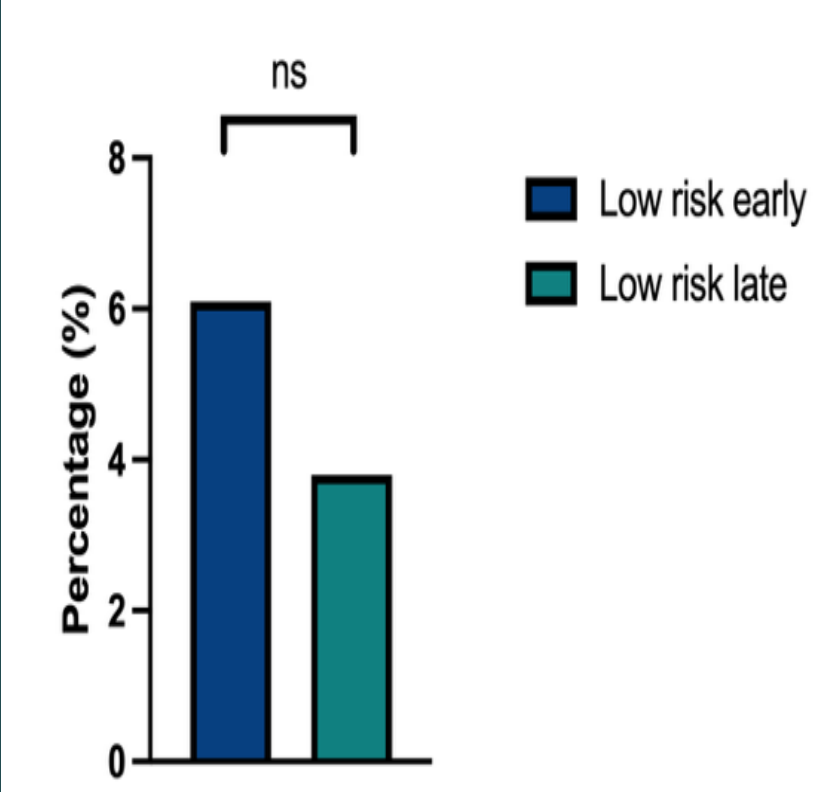


Chart 6 – Low risk: any adverse neonatal outcome

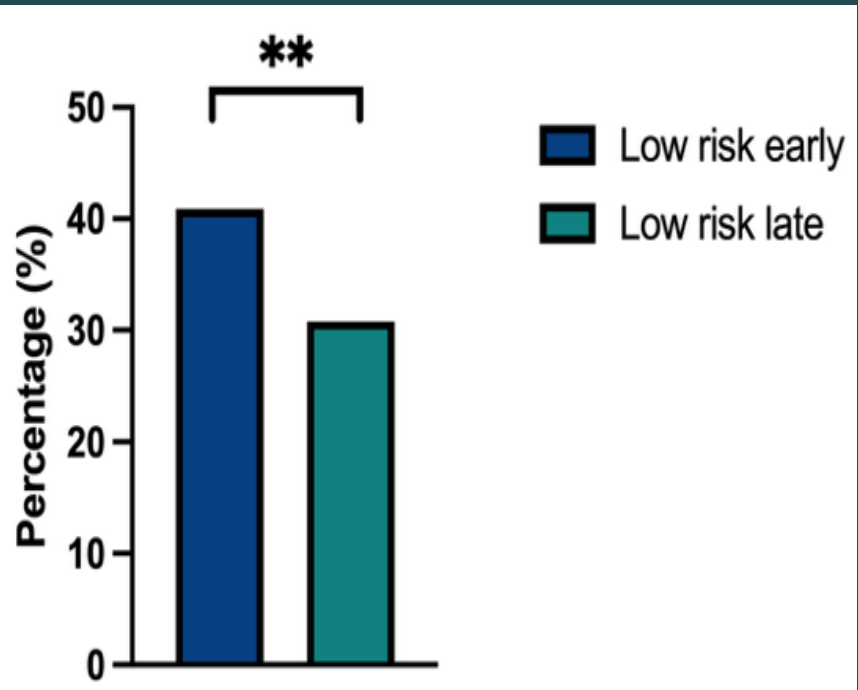


Chart 4 – Low risk: mild adverse outcome (subtypes)

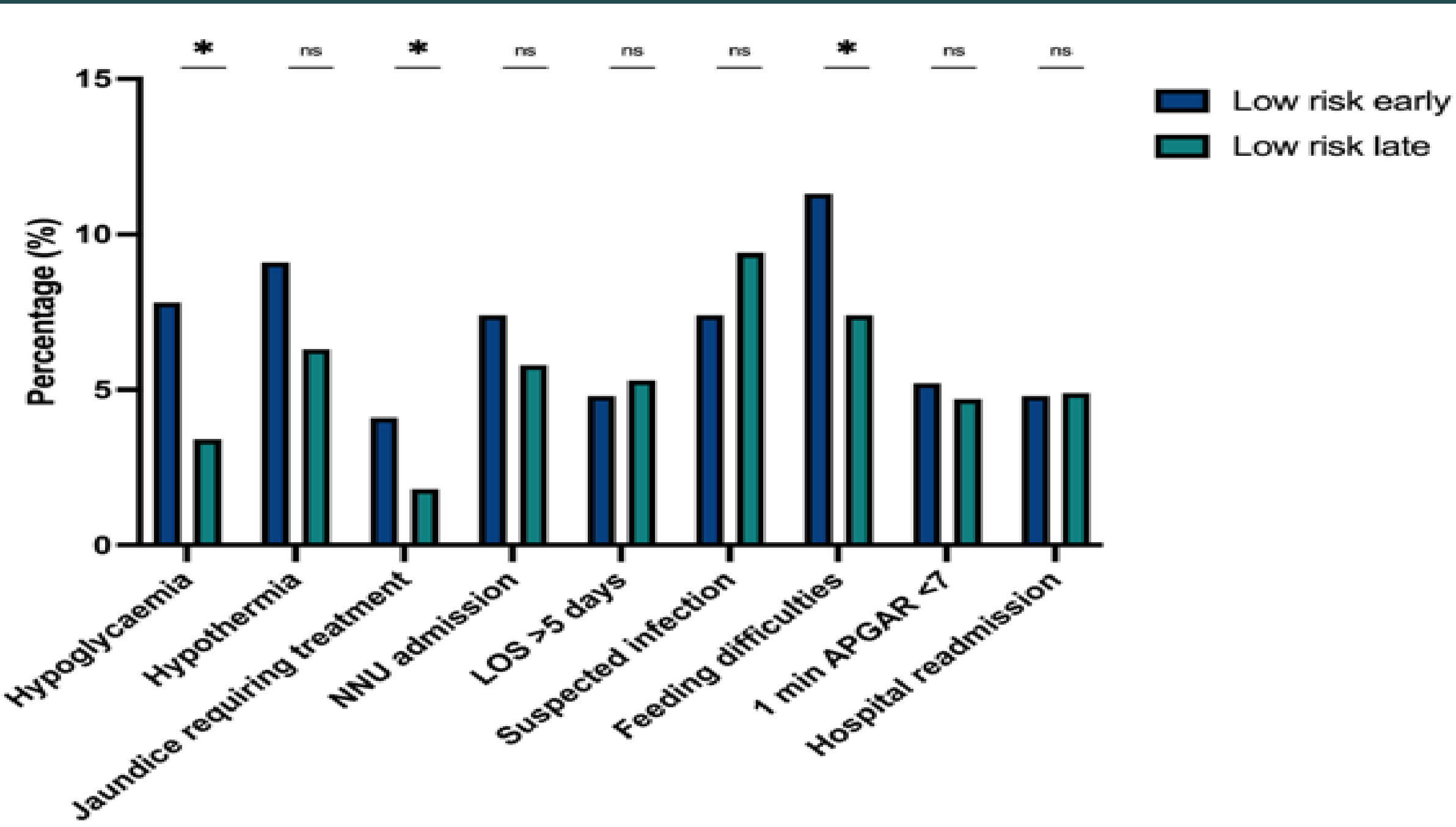


Chart 1 – High risk: severe adverse outcome (overall)

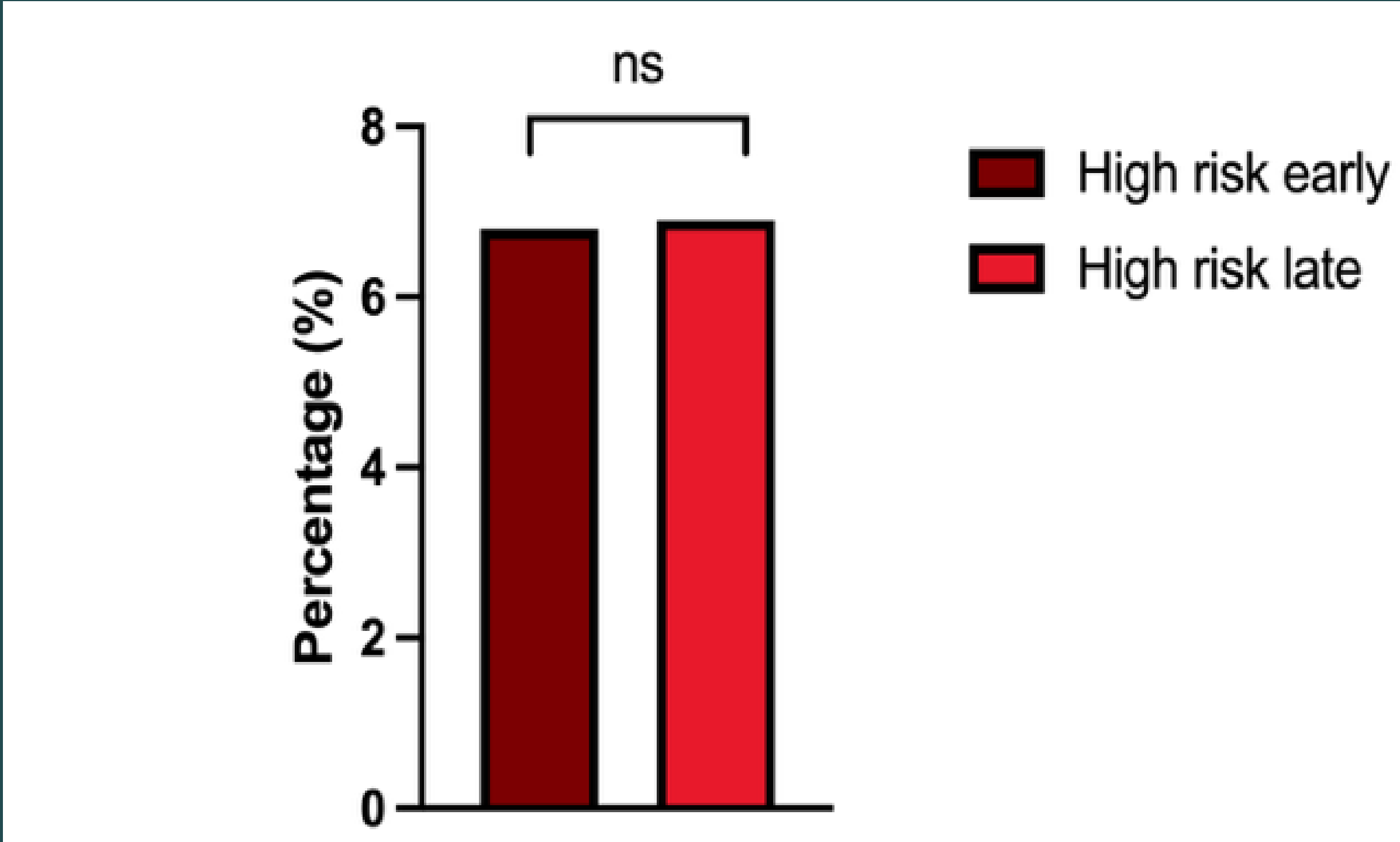


Chart 2 – High risk: any adverse neonatal outcome

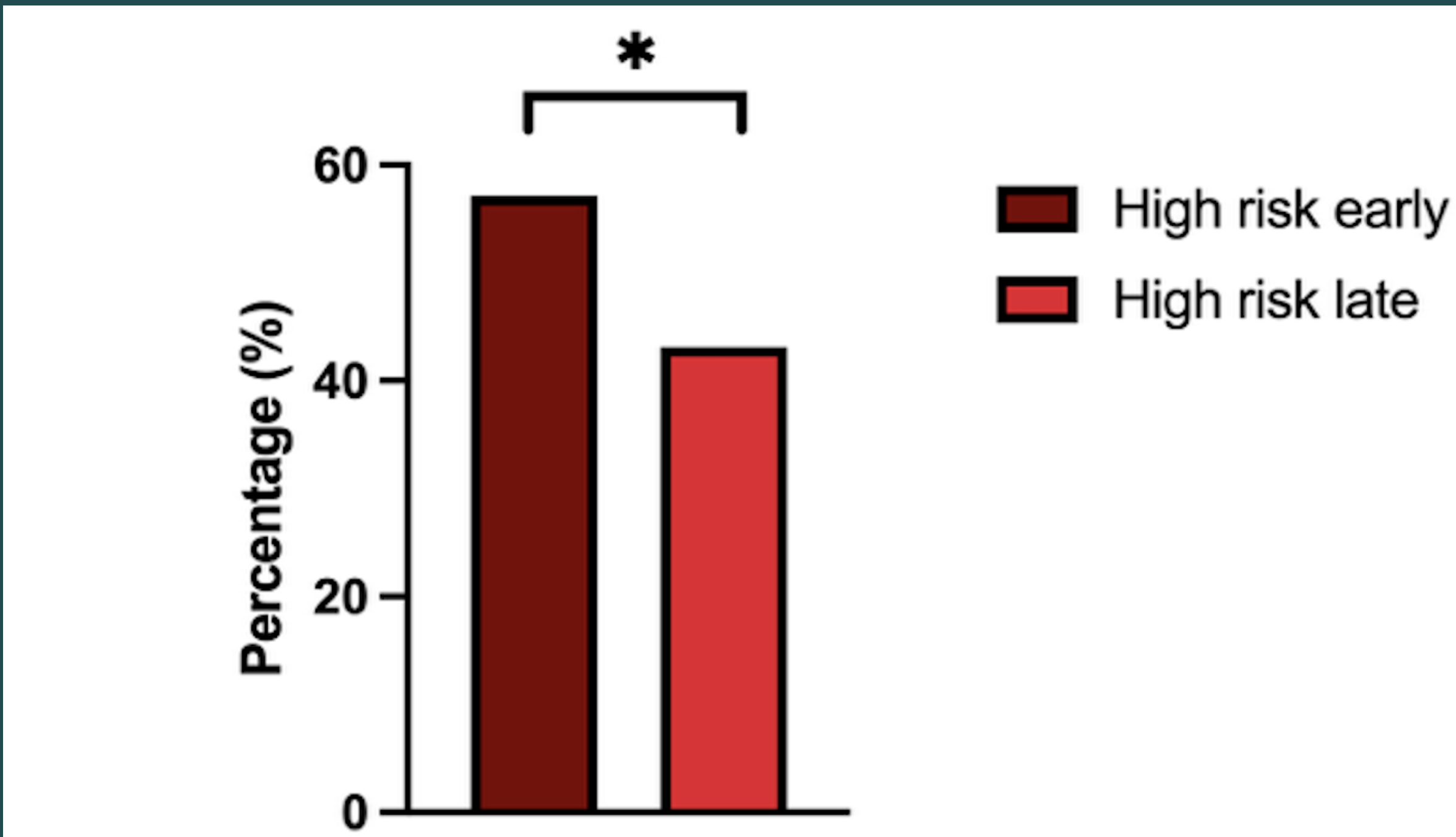
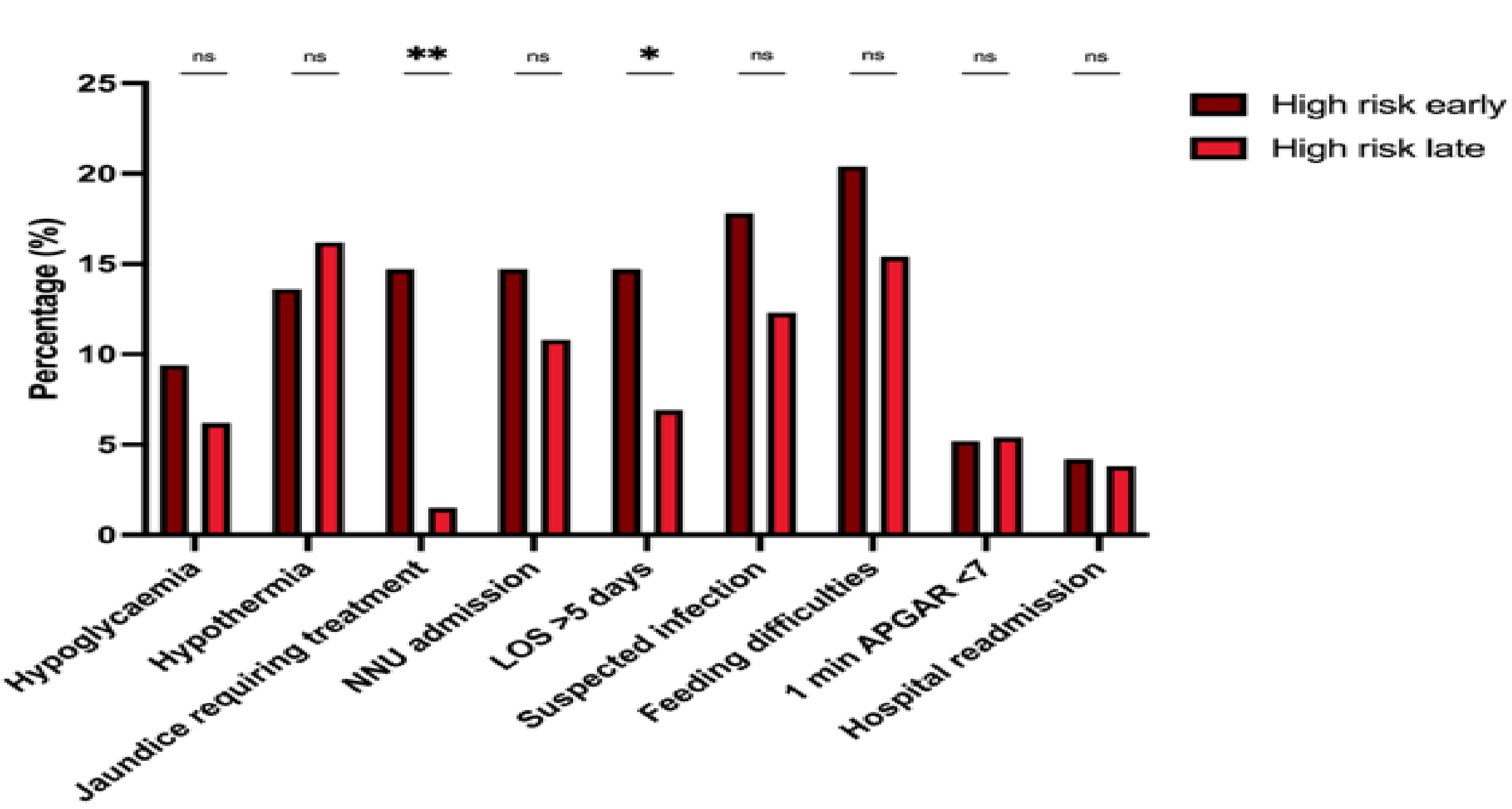


Chart 3 – High risk: mild adverse neonatal outcome (subtypes)



Conclusions

The results of this study show that neonatal outcomes are poorer in both low and high-risk cohorts who were delivered earlier. The reason for this is difficult to comment on in the high-risk FGR group as there is a large overlap in phenotype between neonates affected by growth restriction and those delivered at early term. In reality, the poorer outcomes in this group are probably due to a combination of the two but it is difficult to infer which is more causal.

The results which stand out the most from this study are in the low-risk cohort. There is clear evidence of worse outcomes in the cohort delivered early even after adjusting for confounders such as GDM. This confirms that not all “small” babies are pathologically small. However, if all are managed the same way it can lead to iatrogenic harm.

This study provides the feasibility data to inform a randomized controlled trial to inform the optimal timing of delivery at term of growth restricted fetuses at term.



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