

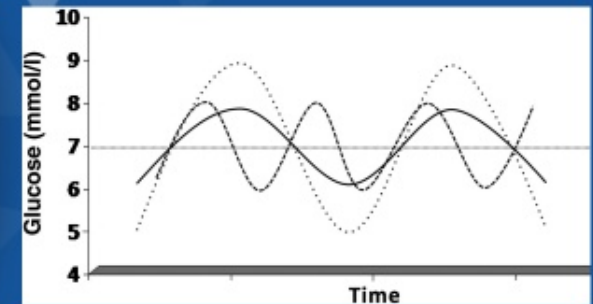


Glycaemic variability is associated with treatment requiring **ROP** Case-control study

Mateusz Jagła, Izabela Szymońska, Katarzyna Starzec, Przemko Kwinta
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Glycemic variability

- blood glucose fluctuations had triggering effect on oxidative stress
- oxidative stress is significant in the pathogenesis of numerous neonatal diseases (PVL, BPD, ROP)





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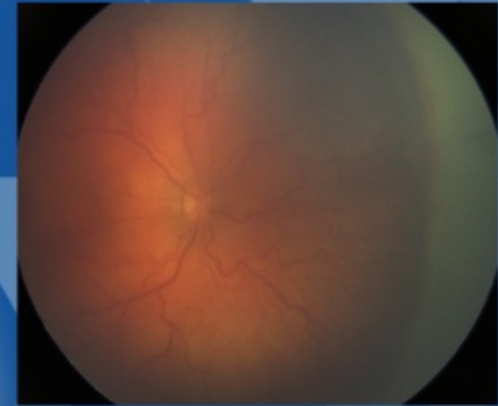
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ROP- risk factors

- prematurity
- birth weight
- oxygen
- ...

- poor postnatal weight gain
- lower postnatal increase of serum IGF-1
- hyperglycemia

Sang JinKim et al. Retinopathy of prematurity: a review of risk factors and their clinical significance, Survey of Ophthalmology 2018





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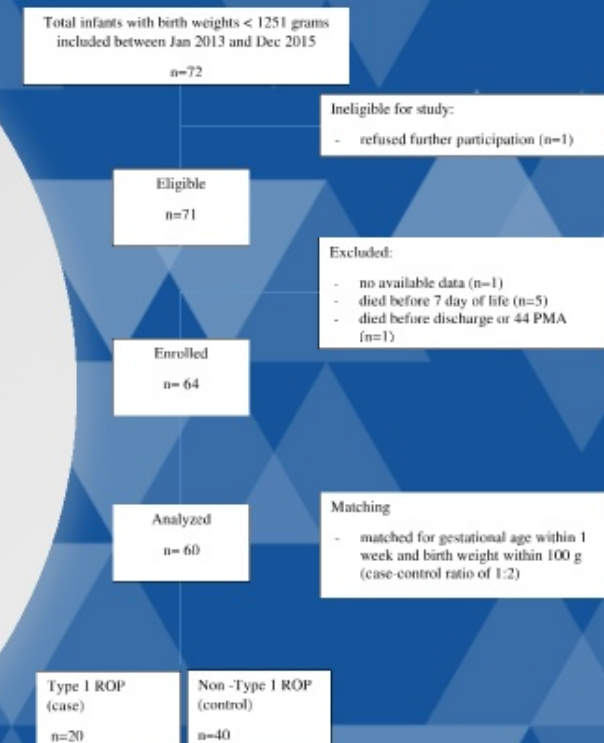
Aim

- assess the association between glycaemic variability (GV) and type 1 ROP

Methods

- case-control study of infants with birth weights of less than 1251g who developed type 1 ROP (n=20)
- controls had a less severe ROP or no eye disease and were individually matched for gestational age and birth weight (n=40)
- for glucose measurements continuous glucose monitoring system was used (CGM)
- OR of ROP were calculated based on multiple factors: oxygen exposure, respiratory support, incidence of hyperglycaemia, and GV

Figure 1. Selection flowchart according to STROBE guidelines.





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Type 1 ROP vs non-ROP

- Oxygen exposure OR 1,28 (1,01-1,64)
- Hyperglycemia OR 0,99 (0,99-1,02)
- IVH grade 3 or 4 OR 3,01 (0,43-20,9)
- CV of glucose OR 1,24 (1,04-1,48)



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Conclusion

- Higher GV in the first week of life and longer oxygen exposure remain significantly associated with severe ROP
- Further prospective studies are needed to investigate the impact of GV on the development of ROP



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