Hospital Mortality in 2,437 Infants in the Australian, New Zealand and UK Boost II Trials of Neonatal Oxygen Saturation Targeting

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Background

The optimal oxygen saturation (SpO2) for preterm infants is unknown. Three BOOST II trials in Australia, New Zealand and UK are comparing outcomes in infants < 28 weeks after randomisation to SpO2 targeting of 85–89% vs 91–95%, using masked oximeters.1 In interim analysis the high target increased 36 week survival in infants whose oximeter had been upgraded with new, more accurate software.2,3

Methods

Pooled analysis of hospital mortality by target, overall and by old or new software.

Results

There was no significant mortality difference between SpO2 targets overall. There was significant heterogeneity between old and new software on mortality (test for interaction p=0.006).* Using new software, targeting 91–95% increased hospital survival by 7.4% (from 76.8% to 84.2%) versus targeting 85–89% (p=0.0015).**

Conclusions

Pending the primary outcome of disability free survival at 2 years it appears wise not to target 85–89%.

References

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