Prevention of Retinopathy of Prematurity in Preterm Infants through Changes in Clinical Practice and SpO_2 Technology.

Castillo A., Deulofeut R., Critz A., Sola A. Acta Paediatr. 2011 Feb;100(2):188-92.

Aim

To identify whether pulse oximetry technology is associated with decreased retinopathy of prematurity (ROP) and laser treatment.

Methods

Inborn infants <1250 g who had eye exams were compared at two centres in three periods. In Period 1, SpO_2 target was ≥93% and pulse oximetry technology was the same in both Centres. In Period 2, guidelines for SpO_2 88-93% were implemented at both centres and Centre B changed to oximeters with signal extraction technology (SET®) while Centre A did not, but did so in Period 3. One ophthalmology department performed eye exams using international criteria.

Results

In 571 newborns <1250 g, birth weight and gestational age were similar in the different periods and centres. At Centre A, severe ROP and need for laser remained the same in Periods 1 and 2, decreasing in Period 3-6% and 3%, respectively. At Centre B, severe ROP decreased from 12% (Period 1) to 5% (Period 2) and need for laser decreased from 5% to 3%, remaining low in Period 3.

Conclusion

In a large group of inborn infants <1250 g, a change in clinical practice in combination with pulse oximetry with Masimo SET, but not without it, led to significant reduction in severe ROP and need for laser therapy. Pulse oximetry selection is important in managing critically ill infants.