

Preductal Transcutaneous Oxygen Saturation at Birth After Elective Caesarean Section

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Background The 2010 Neonatal Resuscitation Guidelines recommend preductal transcutaneous oxygen saturation (SpO₂) monitoring at birth in preterm and/or non reactive and/or hypotonic newborns. Previous studies have assessed SpO₂ showing that SpO₂ immediately after birth is higher in newborns by Vaginal Delivery (VD) vs. Caesarean Section (CS). This difference has never been investigated in newborns by Emergency CS (presence of labour) vs. Elective CS (absence of labour).

Objective To compare SpO₂ in newborns by Emergency CS vs. Elective CS in the first minutes of life.

Methods The study included healthy newborns at term by Emergency CS, by Elective CS and by VD as control group. Infants receiving supplemental O₂ or assisted ventilation were excluded. SpO₂ was recorded for the first 10 minutes of life using a Masimo Radical-7 pulse oximeter probe (Masimo, Irvine, CA) applied to the right hand.

Results We studied 24 newborns by Emergency CS, 57 by Elective CS and 47 by VD. The SpO₂ gradually improved during the first 10 minutes of life in all groups (p per trend < 0,0001). The SpO₂ were similar in the tenth minute of life in all the 3 groups, but it was always higher in newborns by Emergency CS as well as by VD than in those by Elective CS from minute one to minute nine (p<0.05).

Conclusions SpO₂ in newborns by Emergency CS in the first minutes of life is higher than in those born by Elective CS as well as in newborns by VD vs. Elective CS.