aEEG AS A POOR BRAIN PERFUSION DETECTOR IN PRETERM INFANTS

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Background and Aims

The implementation of Amplitude-Integrated electroencephalography (aEEG) has enhanced the neurological monitoring of critically ill infants. The aim of the study is to observe if aEEG monitoring is a valid detecting tool for brain perfusion in preterm infants

Method

35 preterm infant with a gestational age between 24 to 32 weeks were monitored with aEEG during their first 7 days of life. For investigation we used the C3-C4, P3-P4 electrode positioning of international 10-20 system. The background pattern was assessed according to Burdjalov score (Fig 1). Six patient died in first 7 days end was excluded from the study.

Fig 2

Results

5 (14%) infants showed a low Burdjalov score in first 48 hours of life because of intraventricular and intraparenchymal haemorrhages. Whereas 4 (11%) preterm babies showed a tardive sudden worsening of the score (fig 2). These 4 patient in the following hours showed tachycardia, signs of hypoperfusion, 2 of them showed arterial hypotension. We observed normal aEEG Burdjalov score in the remaining patients. Therefore aEEG monitoring in the first 7 days of life showed a high positive predictive value (PPV 100%) for brain poor perfusion.

Conclusion

Poor brain perfusion is not uncommon in preterm babies is with very low birth weight. Amplitude Integrated Electroencephalography may help to evaluate changes in their electrical activity. Our results suggests that aEEG is a valid detecting tool for very early detection brain poor perfusion.

Fig 1

References

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