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ENGLISH SUMMARY

Fetal intrapartum surveillance – Does STAN improve safety? A meta-analysis

An update of a Managed Uptake of Medical Methods (MUMM) review (Tihtonen et al. Finnish Medical Journal 2009;64:1757–60)

Background

Cardiotocography (CTG) is widely for fetal intrapartum surveillance. ST analysis of fetal electrocardiogram (STAN) combined to CTG during labour has been suggested to decrease the incidence of newborn metabolic acidosis. A previous systematic MUMM review in Finland in 2009 concluded, however, that there was not enough evidence to support this hypothesis.

Aim

The aim of this systematic review was to update the review by Tihtonen et al. (2009) by reappraising the efficacy and safety of STAN in addition to CTG in monitoring the fetus during labour compared to CTG alone, as relevant new evidence has recently become available.

Methods

Appraisal of the efficacy and safety of STAN was based on systematic literature searches and meta-analysis. The current use of STAN in Finland was found out by a survey send to the hospital districts.

Efficacy

The incidence of newborn metabolic acidosis and number of operative deliveries for fetal indications did not differ significantly between groups monitored by STAN and CTG compared to those monitored by CTG alone. Fewer fetal blood samples were taken when STAN was used compared to labours monitored by CTG alone. Long-term follow-up data on neurologic sequelae are not available.

Safety

Application of STAN to fetal surveillance during labour not only requires intensive training when introducing the method but also continuing systematic education of the personnel after STAN initialization. As interpretation of the STAN-alerts depends on simultaneous CTG recording, CTG training is an elementary component of this training. Complications of STAN have in most cases been due to problems with interpreting CTG and ignoring STAN guidelines.

Conclusions

Combining STAN with CTG-surveillance does not decrease the incidence of newborn metabolic acidosis and operative deliveries due to fetal indications. Using STAN for fetal surveillance necessitates intensive continuous training.