

Use of AFL in practical care

Introduction

The partogram is used during active labour to objectively confirm labour progress, and at an early stage be able to confirm a dystocic delivery. The partogram is however a rather imprecise tool to predict labour outcome as labour dystocia obviously is a multifaceted condition. One of the most important risk factors for dystocic delivery is an inefficient and long-lasting muscle activity that may lead to muscle hypoxia with progressive lactic acidosis in the myometrium. By combining the information of labour progress together with measurement of lactic acid concentration in the amniotic fluid (AFL-test) a new and more precise decision tool for monitoring the delivering mother can be obtained.

AFL measuring - scientific background

Numerous both experimental and clinical studies have shown that high levels of AFL correlate to both instrumental deliveries and caesarean section, often after a very long and extended labour progress. One of the main reasons is assumed to be the accumulation of lactate acid in the myometrium during contractions that reduces the strength of the remaining contractions and contributes to poor delivery outcome. There is also substantial evidence that an overuse/misuse of Oxytocin in these situations can lead to even further increased AFL levels.

Data from studies also clearly show that a substantial part of women who have arrested labour still will have a low AFL level. If these deliveries are handled in a proper way most of them will have a normal and vaginal outcome. These women usually respond favorably to Oxytocin infusion.

For further details regarding scientific data please contact ObsteCare.

Threshold levels

The clinical studies performed have resulted in two different thresholds of AFL in order to cope with the varying tolerance to excess lactate levels.

These cut-off levels are defined as:

- **Normal levels** – < 10.1 mmol/l
- **Intermediary levels** – Between 10,1 and 12,0 mmol/l
- **Abnormal levels**– > 12. 0 mmol/l

These threshold values have been established by more than 10 000 tests in a clinical settings using ObsteCares Lactate Measurement Unit LMU061. It is important to notice that levels measured with other devices will have different threshold levels due to differences in equipment design. LMU061 is the only device on the market that is designed for measuring the AFL level.

Practical Use

AFL is an easy, low risk decision tool to guide both midwives and obstetricians in clinical practice when Oxytocin is used for augmentation of labour.

Clinical practice varies and methodology has always to be adapted to local guidelines. As a general principle the progress of labour is the key parameter to be combined with AFL monitoring. The following steps can be seen as a general outline:

- Start measuring AFL at halted labour progress, when a dystocic delivery is confirmed
- Continue to augment labour contractions according to guidelines, as long as resumed progress is achieved and AFL *levels are normal*
- If the AFL level rises into *intermediate level*, consider to reduce the Oxytocin infusion especially if the progress has halted
- If the level rises to *abnormal levels* consider to halt the augmentation and give the uterus time to recover

AFL is a unique tool to monitor the uterus activity of a delivering mother and the labour progress. To measure AFL will give substantial clinical benefits. However it shall always be reminded that established protocols for fetal monitoring have to be followed.

For further details please contact Obste Cares clinical experts

Effects that can be achieved by using the AFL in clinical practice

AFL monitoring gives an objective tool to 'Give the right treatment to the right women at the right time'.

The clinical advantages that can be highlighted are among others:

- Less Caesareans sections after an optimal Oxytocin augmentation, even if labour have been arrested
- Optimized delivery times due to an early and objective identification of women who can benefit from changes in regime of augmentation.
- Reduced risk for maternal and fetal complications due to long , stressful and extended deliveries and suboptimal use of Oxytocin