A visual scoring system and its relevance for litigation

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According to an evaluation of the American College of Obstetrics and Gynaecology (ACOG) brain damage and cerebral palsy following labour can be caused if the 5 min Apgar Score is less than 5, the pH below 7.00, base excess more than 15 meq/L and seizures occur in the neonatal period. This leads in general to a lawsuit where the obstetrician will be accused of insufficient management of fetal surveillance. Insecurity in judging the fetal condition during labour rises the rate of caesarean section or the conclusions to perform a caesarean section will be met too late. A visual quantitative analysis of FHR during labour can help to meet the decision for the delivery at the right time. The investigations are based on animal experiments in the sheep and on observations in human during labour.

Methods:

Skin blood flow measurements, pH and PO2 estimations have shown that foetal deterioration is related to the number, duration and depth of decelerations as an expression of foetal hypoxic episodes. No distinction between variable, late and early decelerations is made since misinterpretations lead often to wrong conclusions concerning the management of delivery. As a result of repeated hypoxic episodes following uterine contractions baseline FHR rises, the accelerations of FHR disappear and the oscillation amplitude decreases. The change of these parameters are valued with zero to two points, evaluated at intervals of 30-60 minutes and registered in a partogram. The maximum score for a healthy fetus is 12 and for a fetus in bad condition 0.

Results:

The evaluation of the Giessen heart rate score in spontaneous deliveries at term (38-42 week, birth weight 2900-4000 gr) during 60 minutes before birth showed a pH of 7.34 (SD 0.04) in the umbilical artery if the score was 10-12, but a pH of 7.28 (SD 0.05) if a score of less than 6 was observed for 60 minutes. The observation of single cases leading to a lawsuit show dramatic changes of FHR with scores below 4 over a long time, resulting in a dead fetus or severe brain damage.

Conclusion:

To quantify the FHR during and to observe its development will lead to a higher awareness of fetal deterioration and will facilitate the decision for delivery at the right time and for the right way.