The relationship between fetal biophysical profile and cord blood PH

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Objective: The purpose of the study was to assess the relationship between biophysical activity and the degree of fetal acidosis. Study design: In a prospective study of 140 patients under going cesarean section before onset of labor, the fetal biophysical profile was performed 24h before the time of cesarean and was matched with cord arterial PH that was obtained from a cord segment (10-20cm) that was double clamped after delivery of newborn. (Using cord arterial PH less than 7.20 for the diagnosis of acidosis). Result: The fetal biophysical profile was found to have a significant relationship with umbilical blood PH. The sensitivity, specificity, positive predictive value, negative predictive value of fetal biophysical profile score were: 88.9%, 88.6%, 50%, 98.1%respectively. Conclusion: The first manifestations of fetal acidosis are nonreactive nonstress testing and loss fetal breathing; in advanced acidemia fetal movements and fetal tone are compromised. A protocol of antepartum fetal evaluation is suggested based upon the individual biophysical components rather than the score alone. Keywords: Blood gas, Fetal sampling, Fetal academia, Biophysical profile, Umblical cord blood PH.