UMBILICAL CORD pH AMONG INTRAPARTUM CESAREAN SECTION DELIVERIES

Thesis
Submitted For Partial Fulfillment
Of Master Degree in
Obstetrics and Gynecology

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List of Abbreviations

Abbreviation	Term
AAOP	American academy of pediatrics
ABG	Arterial blood gases
ACOG	American Colleague of Obstetricians and Gynecologists
BDecf	Base deficit of extracellular fluid
BPP	Biophysical profile
bpm	Beat per min
CBC	Complete blood count
CBG	Cord blood gases
CS	Cesarean section
CTG	Cardiotocography
EFM	Electronic fetal monitoring
F.D	Fetal distress
FHR	Fetal heart rate
FBS	Fetal blood sampling

G.A	Gestational age
NICU	Neonatal intensive care unit
OVD	Operative vaginal delivery
PCo2	Partial pressure of Co2
Po2	Partial pressure of oxygen
RCT	Randomized controlled trial
ROM	Rupture of membranes
SD	Standard deviation
SVD	Spontaneous vaginal delivery
TSR	Time to sustained respiration
U.A	Umbilical artery
U.C	Umbilical cord
VLBW	Very low birth weight

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INTRODUCTION

Childbirth is a stressful experience for both mother and infant. Every infant is being regularly deprived of oxygen as maternal contractions, which increase in frequency and duration throughout labor until delivery, restrict blood supply to the placenta. This oxygen deprivation can lead to fetal distress, permanent brain damage and, in the extreme, fetal death. Once an infant has been delivered the attending clinicians must make an immediate assessment of the need for neonatal resuscitation**. (Alfirevic and Neilson, 1998)**

Neonatal assessment is an ongoing process performed on every neonate. Specific times to evaluate a neonate are: Prior to birth,

Immediately after birth , 6-12 hours of age (most detailed examination), prior to discharge. **(Tappero et al., 1999)**.

An assessment of neonatal outcome may be obtained from analysis of blood in the umbilical cord of an infant immediately after delivery. This can provide information on the health of the newborn. **(Myer S and Nunnley L , 1996).**

Analysis of the acid-base balance of arterial and venous blood from a clamped umbilical cord provides objective information on the severity and duration of any lack of oxygen during labor. Such assessment of the acid-base status of umbilical

cord blood has recently been recommended by the British Royal College of Obstetricians and Gynecologists **(Royal College of Obstetrician and Gynecologists, 1993).**

Samples of blood may be taken from the umbilical cord of the neonate immediately on delivery, and a blood gas analysis machine measures the pH, partial pressure of carbon dioxide (pCO2) and partial pressure of oxygen (pO2). A parameter termed base deficit of extracellular fluid (BDecf) can be derived from the pH and pCO2 parameters **(Garibaldi et al .,1997).**

The fetal blood PH is an important diagnostic and prognostic parameter whether measured during pregnancy, during labor, or in cord blood after birth. Severe fetal academia is associated with increased perinatal mortality and increased risk for later impaired neurodevelopment **(Victory et al ., 2004).**

The Apgar scoring system is used to assess newborn infants for depression of cardiopulmonary and neurological function. Scoring is done at 1 and 5 minutes after birth.

It depends on 5 parameters (color, heart rate, respiration, reflex response to nose catheter, none muscle tone)

Apgar score = SUM (points for all 5 parameters)

Interpretation:

• Minimum score: 0

• Maximum score: 10

• The lower the score the more profoundly affected the infant is with scores under 5 considered serious.

• A low initial scores with no improvement in the 5 minute score is associated with neonatal problems including death**. (Alfirevic and Neilson , 1998).**