
OBJECTIVE: Increased LDH levels hold rapid predictive value in the presence of microorganisms. The purpose of this study was to describe the AF LDH isoenzyme activity profiles in women with IAI/I.

STUDY DESIGN: AF was retrieved by amniocentesis in 67 consecutive women stratified in the following groups: i) (+)AFC positive AF cultures, n=15, GA: 27.6±0.8 wks; ii) (−)AFC negative AF cultures, n=21, GA: 28.9±1.1 wks; iii) 2nd trim. control (normal genetic karyotype), n=13, GA: 18.6±0.5 wks; iv) 3rd trim. control (fetal lung maturity), n=18, GA: 36.8±0.2 wks. Total LDH activity was measured in parallel by a kinetic UV spectrophotometric assay. Ninety-five percent of the parameters were used for analysis.

RESULTS: Microbial infection increased total LDH activity: (+)AFC median [range]: 930.5 [169.3-3374.8] vs. (−)AFC: 211.2 [95.6-1939.3] U/L; p=0.002. LDH isoform profiling identified significant and specific increases in LDH isoforms 4 and 5 activities in (+)AFC but not in the (−)AFC group (p<0.01). Advancing gestational age was characterized by select upregulation of LDH isoform 5 in the absence of infection (2nd vs. 3rd trim. controls, p=0.003).

CONCLUSION: In the presence of infection, the blueprint of AF LDH isoenzyme profile is characterized by an increase in the activities of isoforms 4 and 5, whereas advancing gestational age demonstrates an upregulation of isoform 5 only.


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ous 2nd trimester losses. What organisms mediate placental inflammation and pregnancy loss remains unclear. A case control study was performed to determine if placental viral infection is associated with spontaneous 2nd trimester loss.

STUDY DESIGN: Cases were patients with a spontaneous 2nd trimester (15-23.6 wks) loss. Controls were patients who presented for induction of labor for fetal or maternal reasons. Demographic and admission information, obstetric history, and placental pathology were collected. DNA was extracted from placental tissue and nested polymerase chain reaction was performed to detect the presence of adenovirus-associated virus 2 (AAV-2), human papilloma virus (HPV-6, 11, 16, 18), and cytomegalovirus (CMV). Chi square and Fishers exact test were used to determine if viral infection was significantly associated with 2nd trimester loss. The associations of interest were adjusted for possible confounders using multivariable logistic regression.

RESULTS: 79% (66/84) of cases and 44% (7/16) of controls were positive for any virus (P=0.01). In multivariable models, presence of any HPV was significantly associated with loss (OR = 5.64, CI 1.35, 23.56), as was CMV (OR = 5.04, CI 1.03-24.45). AAV-2 was not independently associated with spontaneous loss. Maternal age was protective for spontaneous loss (OR = 0.89, CI 0.82, 0.98). HCA was an independent predictor of spontaneous losses and was prevalent in 69% of the cases and 55% of the controls (p=0.0009). When HCA was added to the multivariate model only CMV remained a statistically significant predictor of second trimester loss (OR = 10.22, CI 1.01-103.6).

CONCLUSION: These studies suggest that viral infections, specifically CMV, are a significant contributor to 2nd trimester loss. Maternal age may confer a protective effect against loss due to younger patients being more susceptible to primary viral infections.


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THE EFFECT OF MATERNAL OXYGEN ADMINISTRATION DURING LABOR ON FETAL PULSE OXIMETRY: A PILOT STUDY MICHAEL HAYDON (1), DAVEN GORENBEN (1), MARIA LANDMARK (2), CAROL ANTHROPOULOS (1), CAROL PATTELO (3), MICHAEL NAGUDITZ (3), TAN GANANIT (2), University of California, Irvine, Obstetrics and Gynecology, Orange, California, 2Loma Linda University, School of Public Health, Loma Linda, California, 3Long Beach Memorial Medical Center, Obstetrics and Gynecology, Long Beach, California.

OBJECTIVE: Despite widespread use of supplemental oxygen in the presence of non-reassuring FHR patterns, human studies are sparse and data are conflicting regarding the actual impact on fetal oxygenation. Using fetal pulse oximetry, we sought to quantify the impact of maternal oxygen administration.

STUDY DESIGN: We compared the effect of 2 concentrations of maternally administered O2 in patients with non-reassuring FHR patterns being monitored with fetal pulse oximetry. Following the fetal O2 saturation (FSPO2) recording on room air, O2 was administered to the mother for 30 min at 40% FIO2 and then 30 min at 100% FIO2. The average FSPO2 saturation during the last 15 min. of each period was calculated.

RESULTS: Data from 24 patients meeting inclusion criteria and completing the entire study were included. Compared to baseline fetal O2 saturation, there was a significant increase in FSPO2 (mean increase in absolute saturation with 40% FIO2 = 4.9%, P = 0.001, and 100% FIO2 = 6.5%, p = 0.003). This represents a relative increase in fetal O2 saturation from 43.5 to 48.4% (11% increase) for 40% FIO2 and from 43.5% to 50% (15% increase) for an FIO2 of 100%. These increases in fetal O2 saturation were the greatest among those fetuses with the lowest initial FSPO2 prior to supplemental maternal O2 administration. When the baseline FSPO2 was < 40%, the mean absolute increase after 40% FIO2 and 100% inspired FIO2 was 7% (p = 0.003) and 12% (p = 0.001), respectively. In contrast, when baseline FSPO2 was > 50% there was no significant change.

CONCLUSION: Administration of supplemental O2 to the mothers of fetuses with non-reassuring FHR patterns increases fetal oxygen saturation substantially and significantly. Fetuses with the lowest initial O2 saturations appear to increase the most. These data are in contrast with the previous studies showing no increase in FSPO2 with supplemental oxygen administration, but this may be explained by both a larger sample size than previous studies and the inclusion of more fetuses with lower baseline O2 saturation.

CONCLUSION: In the presence of infection, the blueprint of AF LDH isoenzyme profile is characterized by an increase in the activities of isoforms 4 and 5, whereas advancing gestational age demonstrates an upregulation of isoform 5 only.