134 NATURAL HISTORY OF LABOR PROGRESSION JUN ZHANG[1], JAMES TROENDLE[2], RAFAEL MIKOLAJCZYK[3], ANN TRUMBLE[4], [1]National Institutes of Health (NIH), Bethesda, Maryland, [2]National Institutes of Health (NIH), Maryland, [3]National Institutes of Health (NIH), Rockville, Maryland, [4]NICHD/NIH, Bethesda, MD

OBJECTIVE: To describe labor patterns in a large cohort in which clinical management was more conservative and perinatal outcomes were normal.

STUDY DESIGN: The National Collaborative Perinatal Project followed up over 55,000 pregnancies in 12 academic hospitals in the U.S. from 1959 to 1965. Detailed labor/delivery information was collected. We restricted to 28,256 deliveries that were singleton, term, spontaneous onset of labor, vertex presentation at admission, no previous cesarean section, delivered vaginally without using mid or high forceps, and 5' Apgar score >= 7. We examined duration of labor separated by parity.

RESULTS: The following table presents the characteristics of the cohort and duration of labor. In nulliparas, the median duration from 4 to 10 cm was 4.9 hrs with the 95th% at 21.9 hours.

CONCLUSION: In vaginal deliveries with normal perinatal outcomes, duration of labor can vary widely, especially before 6 cm. Duration of active phase in nulliparas could last 22 hrs (95th%) and have normal perinatal outcomes.

	Parity 0 (N=8,468)	Parity 1 (N=6,607)	Parity 2+ (N=13,181)
Maternal age	20	22	27
Birthweight	3,156	3,229	3,278
Regional analgesia	62%	37%	20%
Oxytocin for augment	15%	10%	10%
Cervical dilation	Duration of labor	(hour)	(median, 95th%)
4 - 5	1.0 (4.3)	1.0 (3.9)	1.0 (4.3)
5 - 6	0.7 (2.6)	0.6 (1.7)	0.6 (2.0)
6 - 7	0.5 (1.6)	0.4 (1.2)	0.4 (1.2)
7 - 8	0.4 (1.2)	0.3 (0.7)	0.3 (0.7)
8 - 9	0.4 (1.0)	0.3 (0.7)	0.3 (0.7)
9 - 10	0.4 (1.2)	0.2 (0.5)	0.2 (0.5)
2nd stage	0.7 (2.4)	0.3 (0.8)	0.2 (0.6)

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135 PREGNANCY OUTCOME AND MODE OF DELIVERY FOLLOWING A PREVIOUS OPERATIVE VAGINAL DELIVERY NIR MELAMED[1], AVI BEN HAROUSH[1], RONY CHEN[1], BORIS KAPLAN[1], YARIV YOGEV[1], [1]Helen Schneider Hospital for Women, Obstetrics and Gynecology, Tel Aviv, Israel, Israel

OBJECTIVE: Limited data exists regarding the consequences of operative vaginal delivery(OVD) on subsequent pregnancies. Our aim was to assess pregnancy outcome and mode of delivery in women with a previous OVD.

STUDY DESIGN: A case control study of all nulliparous women who underwent OVD in a single tertiary center during 1993-2006 (N=4153). The control group included nulliparous women who underwent spontaneous vaginal delivery(SVD) during this time period in a 2:1 ratio, matched by maternal age and gestational age at delivery (N=8306). The outcome of subsequent delivery for women in the study and control groups was compared (N=1396 and N=2591,respectively). Women with multiple-gestations, non-vertex presentations, or any other contraindications for vaginal delivery were excluded.

RESULTS: 1)Out of 83,351 deliveries during the study period, 5,120 (6.1%) were by OVD, of which 81% involved nulliparous women(N=4153). 2) Women with a previous OVD were at increased risk for recurrent OVD (OR=3.9, 95%-CI 2.5-5.9) and CS (OR=1.9, 95%-CI 1.5-2.5) on subsequent pregnancy. 2) Prolonged 2nd stage was the most common indication for recurrent OVD (80%)in women with a previous OVD, compared with only 34% in women with a previous SVD. 3)The risk of intrapartum-neonatal trauma(1.5% vs. 0.6%) and 3rd-4th-degree lacerations (0.7% vs. 0.2%) was significantly higher in the group of women with a previous OVD (p<0.01). 4)The following factors were associated with increased risk for recurrent OVD: failed vacuum extraction (OR=2.8, 95%-CI 1.4-5.8), prolonged 2nd-stage as the indication for OVD (OR=2.1, 95%-CI 1.2-3.6) on the index pregnancy, time from first pregnancy >3y (OR=3.8, 95%-CI 1.2-12.5), higher fetal-weight on subsequent pregnancy (OR=2.1, 95%-CI 1.2-3.3), and persistent occipito-posterior position (OR=13.8, 95%-CI 4.8-21.2) and the use of epidural (OR=1.8, 95%-CI 1.1-3.3) during subsequent pregnancy.

CONCLUSION: Nulliparous women undergoing OVD are at increased risk for recurrent OVD, cesarean section, perineal trauma and neonatal trauma upon their subsequent pregnancy.

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136 HEAT SHOCK PROTEINS AND INFLAMMATION-INDUCED PRETERM BIRTH BRIANNA LYTTLE[1], JUAN GONZALEZ[1], HUA XU[1], ELLA OFORI[1], MICHAL ELOVITZ[1], [1]University of Pennsylvania, OBGYN; Maternal and Child Health Research Program, Philadelphia, Pennsylvania

OBJECTIVE: Heat shock proteins (HSP) have been suggested to be critical players in inflammatory disease states by binding to Toll-like receptor-4(TLR-4) as endogenous ligands. HSPs are released from cells in response to stress and function as regulators of the innate immune response. Limited obstetrical studies suggest that HSPs may have a mechanistic role in preterm birth (PTB) or may be promising biomarkers. These studies sought to determine 1) the regulation of HSP during pregnancy and in the setting of inflammation-induced PTB and 2) the validity of HSP as a potential non-invasive biomarker using a mouse model of PTB.

STUDY DESIGN: 2 sets of experiments were performed. 1) Cervical (CX) and uterine (UT) tissue was harvested from CD-1 non-pregnant (NP) and pregnant mice on E15, E17, E19 (n=3-6 mice/group). 2) On E15, dams were randomized to intrauterine infusion of saline or lipopolysaccharide (LPS)(N=5-6/group). 6 hrs later, maternal serum (MS), CX and UT were collected for QPCR and ELISA for evaluatoin of HSP 70.

RESULTS: HSP 70 levels were undetectable in saline-exposed dams in maternal serum. While HSP 70 was increased in LPS-exposed, variability between dams was pronounced. SEE TABLE

CONCLUSION: HSPs do not appear to be critically involved in the pathogenesis of PTB. Down-regulation of HSPs in the CX during normal pregnancy could be a protective mechanism against preterm cervical ripening by preventing endogenous ligands from activating TLRs.

	E15 / NP	E15 / NP	E15 LPS / E15	E15 LPS / E15
	Cervix	Uterus	Cervix	Uterus
HSP60	−9.4	−1.5	−1.6	1.6
HSP70	−10.2	2.1	−2.5	1.1
HSP90	−5.9	1.7	−1.6	1.3

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137 OUTCOMES IN VERY LOW BIRTHWEIGHT (VLBW) INFANTS WHO DELIVERED AS A RESULT OF PRETERM RUPTURE OF THE MEMBRANES (PPROM) VERSUS PRETERM LABOR (PTL) ANTHONY SCISCIONE[1], MATTHEW HOFFMAN[1], DAVID PAUL[1], BERNICE ADU-AMANKWA[1], JILLIAN SCISCIONE[1], JENNIFER MERRIMAN[2], [1]Christiana Hospital, Newark, Delaware, [2]Christiana Hospital, Philadelphia, Pennsylvania

OBJECTIVE: We sought to determine if there was a difference in outcomes in VLBW infants who delivered as a result of PTL versus pPROM.

STUDY DESIGN: We included viable infants who delivered from 7/93 to 7/07 without congenital anomalies who weighed <1,500 grams from our neonatal database. Multiple gestations were excluded. pPROM was defined as documented preterm rupture of the membranes before the onset of labor. Univariate and multivariate analysis was performed.

RESULTS: A total of 1260 neonates were included with 912 in the PTL group and 348 in the pPROM group. There was no difference in gestational age (27.4 v 27.6; p=0.35), birthweight (1035 v 1022 gms; p=0.47), race (41% v 45% caucasian; p= 0.2), primigravid status (26% v 32%; p=0.05), tobacco use (23% v 22%; p=0.95), and cesarean delivery (46% v 49%; p=0.31) between the pPROM and PTL groups. There was a higher rate of clinical chorioamnionitis (22% v 8%; p<0.01), antenatal steroid use (73% v 53%; p<0.01), and maternal antibiotic use (80% v 41%; p,0.01) in the pPROM group. There was a higher rate of antenatal magnesium sulfate exposure (37% v 19%; p<0.01), tocolytic use (42% v 27%; p <0.01) and SGA infants (10% v 3%; p<0.01) in the PTL group. Multivariate analysis controlling for potential confounders is presented in the table.

CONCLUSION: VLBW infants who deliver as a result of pPROM have a lower death rate than those delivering after PTL.

Neonatal outcomes on multivariate analysis

	Adjusted OR with pPROM
Death	0.55 (0.34-0.9)
Severe IVH	0.67 (0.38-1.12)
Severe IVH or Death	0.65 (0.44-0.94)
Chronic lung disease (CLD)	0.77 (0.44-1.3)
CLD and/or death	0.56 (0.35-0.85)
NEC	0.98 (0.5-1.8)

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