The Impact of Fetal Anomalies on Contemporary Labor Patterns

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BACKGROUND

- Approximately 3% of live births are affected by major fetal anomalies
- Anomalous pregnancies have increased risk of obstetrical complications such as cesarean section, malpresentation and intrapartum fetal distress

OBJECTIVES

- To compare labor patterns in pregnancies affected by fetal anomalies to low risk singleton pregnancies.

STUDY DESIGN

- Data from the Consortium on Safe Labor, multicenter retrospective study from 19 US hospitals
- 8630 low risk singleton pregnancies
- 1067 pregnancies with fetal anomalies
  - Nulliparous
  - Multiparous
  - Term
  - Preterm
- Repeated measures analysis to create mean labor curves
- Interval-censored regression analysis adjusted for covariables was used to determine the median traverse times at each cervical dilation (Tables 1,2)

RESULTS

- The most significant trends were observed in the preterm nulliparous and multiparous groups
- Labor curves for these groups indicate labor progressed more slowly for patients with pregnancies affected by fetal anomalies (Figures 1,2)
- **The median traverse times from 4cm to complete dilation**
  - Preterm nulliparous patients
    - 5.2 hours in the control and 6.6 hours in the anomaly group ($p<0.05$).
  - Preterm multiparous
    - 5.2 hours in the control and 6.2 hours for the anomaly group ($p<0.05$)

RESULTS

Table 1. Adjusted Duration of Labor in Preterm Nulliparas by Presence of Fetal Anomaly with Median Traverse Times reported as hrs(95th percentile)

	Anomaly (N =580)	No Anomaly (N =3698)	*P-value* for Trend
Cervical Dilation, cm			
3-4	2.1(14.8)	2.0(13.0)	0.08
4-5	1.5(9.3)	1.4(8.8)	<0.05
5-6	1.0(5.7)	0.9(4.9)	0.15
6-7	0.7(3.2)	0.6(2.5)	<0.05
7-8	0.5(1.7)	0.5(1.7)	0.34
8-9	0.4(1.2)	0.4(1.2)	0.40
9-10	0.3(0.9)	0.4(1.5)	<0.05
4-10	6.6(35.4)	5.2(28.1)	<0.05
2nd Stage without epidural	0.4(2.4)	0.3(2.0)	<0.05
2nd Stage with epidural	1.0(4.3)	0.8(3.1)	<0.05

*Adjusted model controlled for age, BMI, race, induction, augmentation, epidural (1st stage only) and birth weight.

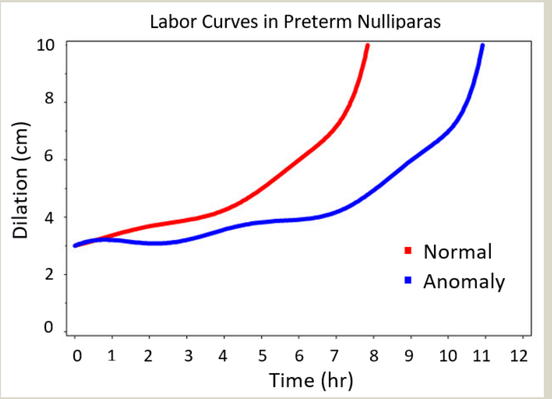
Table 2. Adjusted Duration of Labor in Preterm Multiparas by Presence of Fetal Anomaly with Median Traverse Times reported as hrs(95th percentile)

	Anomaly (N =451)	No Anomaly (N =3607)	*P-value* for Trend
Cervical Dilation, cm			
3-4	2.0(12.0)	2.6(17.4)	0.77
4-5	2.0(14.5)	--	--
5-6	1.0(6.6)	0.8(4.0)	<0.05
6-7	0.7(4.8)	0.5(2.2)	<0.05
7-8	0.5(2.3)	0.4(1.3)	<0.05
8-9	0.3(0.8)	0.3(1.0)	<0.05
9-10	0.3(1.0)	0.3(0.7)	<0.05
4-10	6.2(38.7)	5.2(31.0)	<0.05
2nd Stage without epidural	0.1(0.7)	0.1(0.8)	0.35
2nd Stage with epidural	0.3(1.4)	0.3(1.3)	--

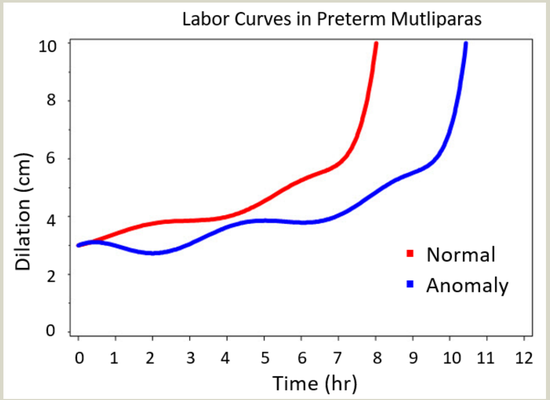
*Adjusted model controlled for age, BMI, race, induction, augmentation, epidural (1st stage only) and birth weight.

RESULTS

- The labor curves indicate an inflection point at 6cm for preterm patients, which indicates the onset of active labor.



- There was no significant difference in median traverse times for term women with anomalies versus those without, although our numbers were small for these groups



CONCLUSIONS

- Labor proceeds at a slower rate for patients with pregnancies affected by fetal anomalies in preterm nulliparous and multiparous groups.
- This slower rate should be considered while caring for these patients in labor.