

## Fetal Growth Restriction at term: Outcomes After Labor Induction

<b>Presenting Author</b>	Kayla Juliet Street, BS Biology, Medical Student, Obstetrics & Gynecology, Tulane University School of Medicine, New Orleans, Louisiana
<b>Co-authors</b>	Ashley Andersen, M.D., Obstetrics and Gynecology, Tulane University, New Orleans, La; Victoria Weprinsky, B.A., School of Medicine, Tulane University, New Orleans, La; Oluchi Nwosu, B.A., School of Medicine, Tulane University, New Orleans, La; Avani Patel, B.S., School of Medicine, Tulane University, New Orleans, La; Meaghan Dougherty, M.D., School of Medicine, Tulane University, New Orleans, La; Ellen Pham, M.D., School of Medicine, Tulane University, New Orleans; Sarah Oliver, M.D., School of Medicine, Tulane University, New Orleans, La; Chi Dola, M.D., Obstetrics and Gynecology, Tulane University, New Orleans, La
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<b>Supplemental Video</b>	<a href="#">Supplemental Video</a>
<b>Category</b>	Women's & Children's Health

### Abstract

**Background:** The etiology of fetal growth restriction (FGR) can be due to suboptimal uterine-placental perfusion. Consequently, concerns arise about growth restricted neonates tolerating labor, particularly by induction. Therefore, this study was performed to examine the success of induction agents in term gestations with FGR.

**Design:** This study was a retrospective analysis. Data was collected from women who delivered neonates with birthweight at less than or equal to 10th percentile for gestation. Student t-test and Chi-square analysis were performed with  $p < .05$  considered significant.

**Results:** 433 medical records were reviewed. Maternal characteristics at labor induction were noted: high BMI of 30.6 +/- 7.6; EGA of 38.6 +/- 1.4; chronic HTN (7.7%), pre-existing DM (2.6%); gestational DM (4.6%), gestational HTN or preeclampsia (19.3%), preterm labor (2.4%), PPROM (2.4%); 90 (20.8%) patients were correctly diagnosed with FGR antenatally and 12.2% had abnormal S/D ratio of the umbilical artery. Neonatal outcomes evaluated included: birthweight (2423.8 +/- 448.6 grams), NICU admission (20.8%), RDS (9.5%). Overall, 210 (50.5%) patients had spontaneous vaginal deliveries, 34 (8.3%) had operative vaginal deliveries, 55 (13.2%) had C-sections after labor, and 109 (26.5%) had scheduled C-sections.

A subset of 166 patients who presented for induction of labor with a starting cervical dilation of 0-2cm were analyzed; 36.7% received Misoprostol, 34% received Dinoprostone, 29% received Pitocin for induction; 75.3% had vaginal deliveries, 24.7% failed induction and required cesarean sections. Patients who received Dinoprostone were statistically more likely to have cesarean delivery,  $p < 0.05$ ; 74% of these cesarean deliveries were for non-reassuring fetal heart tracings.

### Conclusion:

Labor induction in women with FGR and even with an unfavorable cervix resulted in a high successful rate of vaginal delivery, regardless of the inducing agents. Women receiving Dinoprostone for induction are more likely to fail induction requiring cesarean delivery than women receiving Misoprostol or Pitocin.

### Learning Objectives

Discuss the different mechanisms of action, limitations, and adverse effects of different inducing agents.

Discuss the pathophysiology of growth restricted neonates.

Discuss the knowledge gap on the optimal route of delivery as well as inducing agents for growth restricted neonates.