

Title: Impact of Late Prenatal Care on Anemia Prevalence and SGA Outcomes

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Background: Inadequate prenatal care is associated with an increased risk of adverse maternal and neonatal outcomes. This correlation is due to the potential delays in identifying and addressing pregnancy complications during routine prenatal visits. Anemia, for instance, is a common laboratory finding that is detected during prenatal screenings. However, without adequate prenatal care, anemia may be undiagnosed and untreated, leading to complications such as small for gestational age (SGA) infants. Therefore, when patients establish prenatal care late in pregnancy, the early detection and management of conditions such as anemia is essential to reduce the risks associated with SGA and ensure optimal maternal and fetal health outcomes. For this study, our aim is to (1) quantify the prevalence of anemia in a cohort of women presenting to establish late prenatal care in the third trimester (2) to investigate the rate of SGA outcomes in anemic patients and (3) to determine if the treatment of anemia during the third trimester of pregnancy effects neonatal birthweight.

Methods: A retrospective cohort study was implemented to investigate deliveries at Touro Infirmary from 2018- 2021. Hemoglobin and hematocrit levels were recorded upon presentation to establish prenatal care and at admission for delivery. For this investigation, late prenatal care was defined as intake into prenatal care after 26 weeks of gestation. Anemia was defined as a hemoglobin level of ≤ 10.5 g/dL. SGA was classified by neonatal birth weight $< 10\%$ for gestational age. Descriptive statistics were employed.

Results: 1123 total charts were reviewed. Of these, 72 patients had hemoglobin and hematocrit levels collected initially for prenatal care after 26 weeks of gestation and at the time of delivery. The average hemoglobin for prenatal care was 10.6, and the average hemoglobin at the time of delivery was 11.5. 47.2% of these patients (n=34) were anemic upon intake into prenatal care. There were similar rates of SGA neonatal outcomes between the anemic and non-anemic patients, at 14.7% and 13.2%, respectively. Interestingly, patients that were initially anemic upon intake to prenatal care and were treated by the time of delivery had poorer SGA outcomes (21%). Conversely, patients with untreated anemia had better SGA outcomes (6.7%) than patients with treated anemia and patients without anemia.

Conclusions: This study highlights a high prevalence of anemia in this population of patients at Touro Infirmary. We will continue to gather data to further investigate the efficacy of anemia management during the third trimester and the impact of anemia on SGA outcomes.