

Correlation Between Gross Morphology of the Human Placenta and Birth Weight in Normotensive and Pre-Eclamptic Pregnancies in Northwest Ethiopia

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Objectives: The aim of this study was to investigate correlation of gross morphology of human placenta with birth weight in normotensive and pre-eclamptic pregnancies obtained from Bahir Dar, Northwest Ethiopia.

Methods: Institutional based relative cross-sectional investigation was done on 200 term placentas (37 to 42 weeks of incubation) among October and January 2015. 150 placentas from normotensive and 50 from pre-eclamptic pregnancies were gathered and inspected for weight, breadth, thickness and number of cotyledons. Birth weight and placental-fetal weight proportion too estimated. The investigation members were term pregnant ladies who went to work at obstetrics ward during the examination time frame. Those ordinary and pre-eclamptic ladies were remembered for the examination. Normotensive ladies were pregnant moms who were analyzed as would be expected or without toxemia and other intense and ceaseless ailments. Pre-eclamptic ladies were pregnant moms who were determined to have toxemia, however liberated from other intense and ceaseless maladies. The analysis of toxemia depended on at least one of toxemia demonstrative examinations, for example new beginning of raised circulatory strain and nearness of proteinuria in pee microscopy. The examination was intended to have 80% measurable force with level of centrality at 5% and normotensive to toxemia proportion of 3:1. Test size was evaluated utilizing mean distinction recipe by taking the mean of placental weight (478.8 g) among normotensive and (385.4 g) among pre-eclamptic moms. The differences of placental weight were 292.12 among normotensive and 82.21 among pre-eclamptic moms. The determined example size was 200 (150 for normotensive and 50 for toxemia). The example size was additionally determined for placental width, thickness, number of cotyledons and birth weight, and the biggest example gauge was taken.

Placental thickness was estimated at five points utilizing along needle. The placenta was partitioned into three equivalent parts by drawing two circles on the maternal surface of the placenta. These circles cut the range of the placenta into three equivalent parts. One thickness was estimated from the focal point of focal zone, two from the center zone and two from the fringe zone.

Results: The mean birth weight in pre-eclamptic pregnancies (2.6 kg) was altogether ($p=0.0001$) decreased when contrasted with birth weight (3.1 kg) in normotensive pregnancies. Notwithstanding, placental-fetal weight proportion had no noteworthy ($p=0.658$) distinction between normotensive (6.34:1) and pre-eclamptic (6.41:1) gatherings. Birth weight was related with placental weight ($r=0.572$), width ($r=0.583$), thickness ($r=0.192$) and number of cotyledons ($r=0.647$) in the pre-eclamptic gathering. Birth weight was additionally corresponded with placental weight ($r=0.572$), measurement ($r=0.583$), and number of cotyledons ($r=0.647$) in the normotensive gathering. Be that as it may, no relationship was found between placental thickness ($r=0.192$) and birth weight in the normotensive gathering.

There are some limitations for this investigation. Since this examination was led in a wellbeing establishment, placentas from the both groups who delivered at home couldn't be considered. Despite the fact that the scope of 37–42 weeks is an enormous stretch where the measurements and weight of the placenta keeps on developing, this examination doesn't consider the normotensive and pre-eclamptic bunches as far as appropriation of the conveyance time inside 37–42 weeks. Likewise, some pre-eclamptic cases were analyzed at the hour of conveyance and others were analyzed at variable occasions between 34 to 35 weeks as the individual mother told. Because of this, it was hard to decide for how long the placenta was presented to the illness. Accordingly, this examination didn't consider the time span in which placenta presented to toxemia

Conclusion: Birth weight was fundamentally diminished in pre-eclamptic pregnancies when contrasted with normotensive pregnancies. Morphology of placenta, for example, weight, distance across and number of cotyledons were related with birth weight in the two gatherings yet placental thickness was just corresponded with birth weight in toxemia however not in normotensive gathering. Placental-fetal weight proportion had not noteworthy contrast between the gatherings. Assessment of placental morphology prenatally utilizing ultrasound and perception following conveyance is significant for better administration of this and ensuing pregnancies.