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Original Article

# A CROSS SECTIONAL MORPHOMETRIC STUDY OF HYPERTENSIVE WITH NORMAL PLACENTAE AND ITS CORRELATION WITH FETAL OUTCOME

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## ABSTRACT

**Introduction**: Placenta "the vital organ" for maintaining healthy pregnancy is unique in its development, being derived from both mother and fetus. Thus hypertensive disorder affecting mother has a deleterious impact on placenta which may lead to poor fetal outcome.

**Aim**: A cross-sectional descriptive study was undertaken to analyze and assess the morphological changes in hypertensive placentae and to clinically correlate it with fetal and maternal parameters.

**Materials and Methods**: 50 placentae were freshly collected from pregnancy induced hypertension (PIH) cases (study group) and 50 from normal pregnancy (control group). Study group was divided into three categories depending upon severity of the disease.

**Observations and Results:** 70% in study group were primigravida and were from rural area.46% were in age group of 15 – 20yrs.50% under low socio-economic status and 60% were without any regular antenatal check-up. Preterm, IUGR, still birth and neonatal death accounted to 10%, 12%, 18% and 10% respectively in study group. The average diameter, thickness, volume and number of cotyledons in study group were 15.91±2.11cm, 2.39±.54cm, 297.64±67.90ml and 10.02±4.13respectively. Mean placental weight was 376.41±17.198gm (mild PIH), 330.72±2.90gm (severe PIH), 329.73±3.19gm (eclampsia) and mean birth weight was 2680.29±198.46gm (mild PIH), 2212.06±36.41gm (severe PIH) and 2073.60±9.47gm (eclampsia) respectively in study group. Various pathological changes like retro placental hematoma, infarction and calcification had been noticed.

**Conclusion:** Placental morphometric parameters were significantly reduced (<.001) in study group as compared to control group. Decreased placental weight was associated with reduced birth weight and feto-placental ratio with increase in severity of hypertension significantly (<.001). A significant increase (<.05) in incidence of preterm, IUGR, still birth and neonatal death were found in study group. Assessment of morphological changes and its clinical relevance can be correlated with transactional study so as to provide the safe confinement and reducing the fetal morbidity and mortality.

**KEYWORDS:** Placental morphometry, Fetoplacental ratio, Placental coefficient, Gravida,Perinataloutcome, Pregnancy induced hypertension (PIH).

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## INTRODUCTION

Placenta "After birth" evoked great interest among obstetricians, pathologists and recently anatomists to unveil its mysterious, complex structure in hypertensive pregnancy which can be correlated clinically. The placenta acts as a "diary of intrauterine life" which has the potency of focusing the developmental process going on during the pregnancy [1]. Placenta was often regarded as the waste product of the birth process, but obstetricians consider it to be the most important fetal organ. Being an organ of