PREVALENCE OF BIRTH DEFECTS DETECTED BY FIRST TRIMESTER ANTENATAL SCREENING IN A TERTIARY CARE CENTRE

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Background: Birth defects pose a serious burden to the healthcare system as they account for 7% of all neonatal deaths globally according to WHO report on birth defects 2004. In India 11% of neonatal deaths in 2017 were due to birth defects. The detection of anomalies is usually the domain of second trimester anomaly scan, but it can cause delay in diagnosis of several major anomalies which cause delay in management. The first trimester ultrasound between 11 weeks and 13 weeks 6 days helps in early detection of a major portion of these anomalies earlier owing to advances in technology. Though not universal now it can be used as an excellent tool to tackle the global burden of congenital anomalies.

Objectives: Primary objective was to find out the prevalence of congenital anomalies detected by 11-13w6d scan. Secondary objective was to find out the maternal characteristics associated with congenital anomalies detected by first trimester ultrasound.

Methods: A cross-sectional study was conducted at the Department of Obstetrics and Gynaecology, Government Medical college, Thiruvananthapuram. The sample size was calculated to be 3104. Antenatal women registered in first trimester at SAT hospital over a period of one year were recruited for this study. Their first trimester scan was checked for anomalies. Their details were filled into a proforma using a semi structured interview schedule, the data collected was entered in an excel sheet and analysis done using the statistical software SPSS v26.0. Results were expressed

asmeans and proportions. Chi square test and Fischers exact test were used to find the association between variables.

Results: Of the 3105 patients studied, 40 cases with congenital anomalies were detected by the first trimester scan, a prevalence of 1.29%. Forty five percent of anomalies detected were neural tube defects and that of central nervous system, followed by abdominal wall defects. The prevalence detected in this study is higher than most prior studies on this topic, partly because most prior studies were on western population, where the prevalence of congenital anomalies is lower and also because this study was conducted in a tertiary care centre with dedicated fetal medicine unit.

The significant associated factors found were previous h/o congenital anomalies (p value 0.021), pre conceptional folic acid intake (p value 0.017), drug intake in first trimester (p value 0.039) and h/o assisted reproductive techniques (p value 0.007).

Conclusion: The prevalence of birth defects detected by first trimester ultrasound was found to be 1.29%. Most of the anomalies detected were neural tube defects and abdominal wall defects. The use of first trimester scan should not be limited to dating pregnancy and Downs screening. The role of first trimester scan in detecting structural anomalies should be emphasised more and it should be brought to the frontline for screening of anomalies.

Keywords: congenital, structural, anomalies, ultrasound, trimester, screening

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