ISSN- O: 2458 - 868X, ISSN –P: 2458 - 8687

International Journal of Medical Science and Innovative Research (IJMSIR)

IJMSIR : A Medical Publication Hub

Available Online at: www.ijmsir.com

Volume – 2, Issue – 4, July - August - 2017, Page No. : 134 - 136

Role of USG in Prenatal Diagnosis of Congenital Anomalies.

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Conflicts of Interest: None to Declare

Abstract

Background: A congenital anomaly is an abnormality of structure, function or body metabolism that is present at birth and results in physical or mental disability, or is fatal.

Material and Methods: The patients, who underwent regular obstetrics ultrasound from, were recruited. Data of Antenatal ultrasounds was statistically analyzed on structured data collection form to determine the prevalence of congenital anomaly in 2nd trimester.

Results: We diagnosed 52 cases of fetal anomalies. The antenatal prevalence of congenital anomalies was 26 per 1000. We had 28 cases of neural tube defects, 8 of musculo-skeletal, 06 of genitourinary, 05 of miscellaneous, 03 of gastro-intestinal, none from cardiovascular system and facial defects.

Conclusion: The prevalence of major congenital anomalies in our population appears to be similar to international figures AS 2.97%.

Keywords: Congenital anomaly, 2nd trimester ultrasound.

Introduction

A congenital anomaly is an abnormality of structure, function or body metabolism that is present at birth and results in physical or mental disability, or is fatal. Each year, eight million children are born worldwide with congenital anomalies, of which 3.3 million die before the age of five; 3.2 million of the survivors may be mentally and/or physically disabled[1]. The prevalence of birth defects is comparable all over the world; about 3% in the United States[2], 2.5% in India, [3] and 2% to 3% in the United Kingdom.[4] the most prevalent conditions include congenital heart defects, or facial clefts, Down syndrome, [5,6] and neural tube defects. [7]. There are a number of laboratory and imaging studies available for detection of these anomalies. Out of these ultrasound is the one which gives a great amount of information about the structure and to some extent physiological aspects of the state of fetus. Some anomalies like anencephaly can be picked as early as 12 weeks when skull ossification is complete[8].

Second trimester ultrasound scan has become an essential part of antenatal care. In cases where a major structural defect is identified, termination of pregnancy is offered.

Material and methods

This cross-sectional study conducted in department of radiology, S. P. Medical College, Bikaner. In the department of radiology, two antenatal ultrasound in pregnancy are performed, one at 11-14 weeks and the other between 18-22 weeks. A third trimester ultrasound is requested when indicated. We performed about 2890 ultrasounds on low risk pregnant women in 2nd trimester between January–2016 December 2016. Consultant Radiologist performed all the Transabdominal ultrasounds after obtaining a verbal consent, using 3.75 MHz probe. After enquired about any history of drug intake, exposure

to any viral infections and history of any generalized disease like Diabetes mellitus or hypertension and demographic detail of study subjects was noted.

Results

During the study period, a total of 2000 prenatal ultrasounds were reported. Out of these 52 cases of congenital abnormalities were identified and they served as the study population. Congenital abnormalities occurred among 2.60% of all low risk population. The mean age and gestational age of the women in this study was 25.6 years (SD ± 5.4) and 24 weeks (SD ± 6.8) Among the study subjects 15.20% were women above the age of 35 years. Out of these 52 had different anomalies majority were from central nervous system, followed by Musculo-skeleton, miscellaneous (like cystic hygromas, IUGR's, hydrops-fetalis, isolated pleural effusions and ascites), genitourinary & renal, and gastrointestinal. We had 28 cases of neural tube defects, 8 of musculo-skeletal, 06 of genitourinary, 05 of miscellaneous, 03 of gastro-intestinal, none from cardiovascular system and facial defects. Polyhydramnios was seen in 52% cases of neural tube defects and 65% cases of musculoskeletal anomalies. Oligohydramnios was noted in cases of agenesis of kidneys and polycystic kidney disease. We had 18 cases with twins and out of these one had one fetus affected, other normal.

Table 2. The Spectrum of Abnormalities.

Anomaly	No. of case
Neural tube defect	28
Musculo-skeleton	08
genitourinary	06
gastro-intestinal	03
Miscellaneous	05
Total	50

Discussion

Congenital malformations affect approximately 2-3% of all live births every year.[9] Ultrasound antenatal detection of congenital anomalies has become a new goal of obstetric management.

Congenital anomaly consists of a departure from normal anatomic architecture of an organ or system. Anomalies may result from an intrinsically abnormal promordium or anlage of an organ or from a normal promordium that is affected during development by extrinsic forces.

Spectrum of anomaly in our study is was similar in with many study[10.11].

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