



CLINICAL SPECTRUM OF MID-TRIMESTER TERMINATION OF PREGNANCIES FOR FETAL CONGENITAL MALFORMATIONS IN A TERTIARY CARE HOSPITAL

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ABSTRACT **BACKGROUND:** Congenital Fetal Malformations are structural, functional or biochemical defects present at birth. Ultrasound testing at 18-20 weeks of gestation has revolutionized the diagnosis of fetal malformations. The aim of present study is to find out the clinical profile of women with fetal congenital malformations, the risk factors, obstetric profile, history of folic acid intake and methods of MTP sought. **METHODS:** A prospective study was conducted among women who went MTP for congenital gross malformed fetuses. Factors like parity, maternal age, type of anomaly, method of termination of pregnancy and gender of aborted fetus was studied. **RESULTS:** Out of 1497 deliveries during study period, 50 fetuses with congenital malformations were identified. Commonest congenital malformations were that of CNS [48%], with Anencephaly being most common. Most of the risk factors identified were maternal age > 30 years [30%], consanguinity [16%] and maternal diabetes [16%]. **CONCLUSION:** The present study revealed the utility of USG in detecting congenital malformations. The role of periconceptional folic acid consumption in preventing congenital malformations was also seen

KEYWORDS : congenital fetal malformation, MTP, gestational age

INTRODUCTION

Fetal structural abnormalities contribute to more than half of perinatal mortalities. Congenital fetal malformations [CFM] are structural, functional or biochemical defects present at birth, these can be lethal and in utero diagnosis leads ultimately to elective medical termination of pregnancy. The etiology of CFM is multifactorial and the cause is unknown in 50%, genetic in 32-40% and environmental in 5-10%.¹ Ultrasound has revolutionized the diagnosis of fetal malformations. About 3% of pregnancies are affected either by genetic or structural fetal anomaly.² Birth defects can be a part of a syndrome or isolated abnormalities³

Ultrasound has revolutionized the diagnosis of fetal malformations. The current policy is to offer universal ultrasound screening to all pregnant women between 18 to 20 weeks of gestation.⁴ According to Medical Termination of Pregnancy [MTP] act, which is in place since 1971 in India, pregnancy could be terminated if there is substantial risk of the child born with physical or mental abnormalities upto 20 weeks of gestation as it decreases women mental agony of carrying anomalous fetus to term.⁵ The aim of present study is to find out the clinical profile of women with fetal congenital malformations, the risk factors, obstetric profile, history of folic acid intake and methods of MTP sought.

MATERIALS AND METHODS

A prospective study was conducted among women who underwent MTP for congenital gross malformations, in the department of Obstetrics and Gynecology at SKIMS MEDICAL COLLEGE BEMINA, SRINAGAR from February 2018 to January 2020. Among the study group, factors like parity, age, gestational age of diagnosis, type of anomaly, method of termination of pregnancy and gender of fetus was collected and analysed. Risk factors analysed were maternal age, folic acid consumption, family history and consanguinity. Prenatal diagnosis was done by USG. Termination methods were taken as per gestational age and obstetric history of patient. The termination methods employed were medical method with mifepristone and misoprostol, spontaneous expulsion and dilatation and curettage.

STATISTICAL METHODS

Institutional Ethical clearance was obtained for this study. The data was analysed using SPSS methods.

All women diagnosed with gross congenital malformed fetus on ultrasound and having MGA less than 20 weeks.

RESULTS

Out of the total 1497 deliveries, during the study period, 50 fetuses with

congenital malformations were identified. Incidence being 3.3%. The Commonest congenital anomalies involved central nervous system [48%].

TABLE 1. DISTRIBUTION OF PATIENTS ACCORDING TO AGE

| Age [in years] | Total cases-50 | percentage |
|----------------|----------------|------------|
| 15-20 | 1 | 2 |
| 21-25 | 1 | 2 |
| 26-30 | 9 | 18 |
| 31-35 | 39 | 78 |

Most of the study patients were in the age group of 31-35 years [78%], while as 18% of patients were in the age group of 26-30 years. [TABLE 1]

TABLE 2. DISTRIBUTION OF PATIENTS ACCORDING TO PARITY

| Parity | Total cases-50 | Percentage |
|-------------------------|----------------|------------|
| Primigravida | 20 | 40 |
| 2 nd gravida | 10 | 20 |
| 3 rd gravida | 15 | 30 |
| 4 th or more | 5 | 10 |

Primigravida women were 40%, followed by 3rd gravida [30%]. [TABLE 2]

TABLE 3. DISTRIBUTION AS PER PERICONCEPTIONAL FOLIC ACID INTAKE

| History of Folic acid intake | Total Cases-50 |
|------------------------------|----------------|
| Yes | 10 |
| No | 40 |

The distribution of study patients as per folic acid intake is shown in table 3.

TABLE 4. GROSS DISTRIBUTION OF ANOMALIES

| System | Total cases-50 | Percentage |
|-------------------------------|----------------|------------|
| Craniospinal | 24 | 48 |
| Cardiovascular | 10 | 20 |
| Musculoskeletal | 10 | 20 |
| Renal | 3 | 6 |
| Abdominal | 2 | 4 |
| Multiple congenital anomalies | 1 | 2 |

Most common congenital anomaly found was craniospinal [48%], cardiovascular [20%], musculoskeletal [20%], renal [6%], abdominal[4%] and multiple congenital anomalies[2%].[TABLE 4]

DISTRIBUTION OF ANOMALIES [TABLE 5]

| | |
|--------------------------|----|
| Meningomyelocele | 2 |
| Spina bifida | 5 |
| acrania | 2 |
| Anencephaly | 15 |
| Imperforate anus | 1 |
| Gastrochisis | 1 |
| Ventral Septal Defect | 6 |
| Patent Duct Arteriosus | 2 |
| Pulmonic stenosis | 1 |
| Single Atrium | 1 |
| Bilateral Renal Agenesis | 3 |
| Musculoskeletal | 10 |
| Cleft lip/Cleft Palate | 1 |

TABLE 6.RISK FACTORS

| Risk factors | Total cases-50 |
|--------------------------------|----------------|
| Age>30 years | 15 |
| Consanguinity | 8 |
| Maternal Diabetes | 8 |
| History of ovulation induction | 0 |
| Anemia | 4 |
| History of IUD | 2 |
| History of abortions | 3 |
| TORCH Infection | 3 |
| Hypothyroidism | 2 |
| No Risk factor | 5 |

P value of less than 0.05

In our study, most of the risk factors identified were age> 30 years [30%], consanguinity[16%] and maternal diabetes[16%].[TABLE 6]

Out of 50 MTPS,35 pregnancies[70%] were terminated by medical method with mifepristone and misoprostol,5 patients[10%] expelled spontaneously and 10 patients[20%] required dilatation and curettage.[TABLE7]

TABLE 7.METHOD OF TERMINATION

| Termination | Total cases | Percentage |
|--------------------------|-------------|------------|
| Medical Management | 35 | 70 |
| Spontaneous Expulsion | 5 | 10 |
| Dilatation and Curettage | 10 | 20 |

The sex determination of aborted congenital malformed fetus is shown in table 8

TABLE 8.SEX OF THE FETUS

| Sex | Total Cases-50 | Percentage |
|-----|----------------|------------|
| XY | 28 | 56 |
| XX | 22 | 44 |

DISCUSSION

In our study,the distribution of congenital anomalies was studied.Ultrasound at 18-20 weeks was the main diagnostic modality used.In our study,most women with congenital anomaly were found in the age >30 years[78%].In a study conducted by Suriyanarayan G et al6,most of the congenital anomalies were found in women with age >30 years[79%].In contrast in a study conducted by Jain S et al7,most of the women seeking MTP for congenital malformations were found in the age group of 20-25 years[61%].

In our study,the history of periconceptual folic acid consumption was seen in only 20% of cases.This is in consistent with study conducted by Dasari P et al8,where periconceptual folic acid intake was found in 8% of such patients.

The most common congenital abnormality in our study was that of central nervous system[48%].This is in consistent with study conducted by Dasari P et al8,where CNS abnormalities were found in 55.5%,followed by renal system[10.2%] and cardiovascular system[7.3%]. In contrast in a study by Bhide P et al9,cardiac defects

were reported to be most common.In our study the most common CNS abnormality was Anencephaly similar to the study cpnducted by Lavanya S et al10.Similarly in a study conducted by Jain S et al7,anencephaly was reported to be most common CNS abnormality.

In a study conducted by Dasari P et al8, consanguineous marriage was the risk factor in 27.3% of cases and Diabetes mellitus was seen in 28% of cases,while as in our study consanguineous marriage and diabetes mellitus was seen in 16% of cases each.

In our study,methods of termination included medical methods [70%],spontaneous expulsion [10%] and dilatation and curettage in 20% of cases.Similarly in a study conducted by Tang et al11 and Ashok et al12,only 8-11% of women needed surgical evacuation.

In our study,the sex determination of congenital abnormal fetuses was XY in 56% and XX in 44% of cases. While as in a study by Suriyanarayan G6,40% of fetuseswere XY AND 60% were XX.

CONCLUSION

This study was conducted to study the clinical spectrum of patients with congenital malformed fetuses.The need of detailed targeted level II scan was focussed to identify at earliest the congenital abnormal fetus,so that mother is prevented from carrying an abnormal fetus to term.Also folic acid deficiency was seen a significant risk factor,hence the urgent need of generating awareness about the periconceptual consumption of folic acid.Also the families with significant family history of genetic diseases need to go for genetic testing before opting for consanguineous marriages.Also the age at first birth of the baby needs to be reduced.Diabetic Women with uncontrolled blood sugars need to optimize their glucose levels before planning a pregnancy.All said and done.Prevention is always better than care.

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