

ORIGINAL ARTICLE

Assessment of Congenital Anomalies in Study Population- A Clinical Study

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ABSTRACT:-

Introduction- Congenital anomalies account for 8–15% of perinatal deaths and 13–16% of neonatal deaths in India. The present study was conducted to assess the cases of congenital anomalies of fetus. **Materials & Methods-** The present study was conducted in the department of Gynaecology & Obstetrics on 210 pregnant women. Ultrasound (USG) examination was done in pregnancy to detect birth defects. They were divided into 2 groups. Group I had 120 mothers who were legally allowed to proceed to abortion, group II had 400 mothers who were unable to obtain permission for abortion. **Results-** In this study, group I had 45 women and group II had 165 women. We found that anomalies were down syndrome (group I- 4, group II- 17), hydrocephaly (group I- 12, group II- 40), chromosomal anomaly (group I- 5, group II- 12) and heart anomaly (group I- 3, group II- 15). Anomalies were hydrofetalis (group I- 10, group II- 25), microcephaly (group I- 5, group II- 15) and major thalassemia (group I- 5, group II- 13). Education was primary (group I- 20, group II- 45), high (group I- 10, group II- 70) and secondary (group I- 15, group II- 50). The difference was significant ($P < 0.05$). Marriage was familial (group I- 25, group II- 110) and non- familial (group I- 20, group II- 55). **Conclusion-** Congenital anomalies are not uncommon conditions, as their birth prevalence rate is equivalent to global rates. Common anomalies are down syndrome, hydrocephaly, chromosomal anomaly, heart anomaly, hydrofetalis, microcephaly and major thalassemia.

Key words- Congenital, Hydrofetalis, Microcephaly

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INTRODUCTION

Congenital anomalies are an important cause for neonatal mortality and morbidity. They are also known as birth defects, congenital disorders or congenital malformations. These anomalies include defects in the baby's structure, function or metabolism that lead to physical or mental disabilities, and can be fatal sometimes. Earlier in the 20th century, the proportion of perinatal deaths due to anomalies was not as high, as there were commoner causes like infections or metabolic problems. As the incidence of the latter reduced due to improved health care, there has been an increase in the percentage of perinatal deaths due to congenital anomalies.¹

There has also been an increase in the use of irradiation, alkylating agents, antimetabolites, smoking and drinking and environmental pesticides—all known to cause congenital anomalies. Congenital anomalies account for 8–15% of perinatal deaths and 13–16% of neonatal deaths in India. These anomalies lead to fetal loss as well as contribute significantly to fetal morbidity as well as childhood and adult morbidity.²

Therapeutic abortion is defined as intentional termination of pregnancy performed or authorized by a physician in order to save the mother's life and health. Termination of

pregnancy is legally allowed if pregnancy is harmful for mother/family during pregnancy or after birth. The reasons for this termination include the following circumstances: (a) complications during the pregnancy endangering mother's health and (b) termination of pregnancy due to major malformation of fetus. Many of the serious maternal and fetal conditions are now easily permitted for abortion in the country.³ The present study was conducted to assess the cases of congenital anomalies of fetus.

MATERIALS & METHODS

The present study was conducted in the department of Gynaecology & Obstetrics. It included 210 pregnant women. All were informed regarding the study and written consent was obtained. Ethical clearance was obtained before starting the study. General information such as name, age, etc. was recorded.

Ultrasound (USG) examination was done in pregnancy to detect birth defects. They were divided into 2 groups. Group I had 120 mothers who were legally allowed to proceed to abortion, group II had 400 mothers who were unable to obtain permission for abortion. Results thus obtained were subjected to statistical analysis using chi-square test. P value less than 0.05 was considered significant.

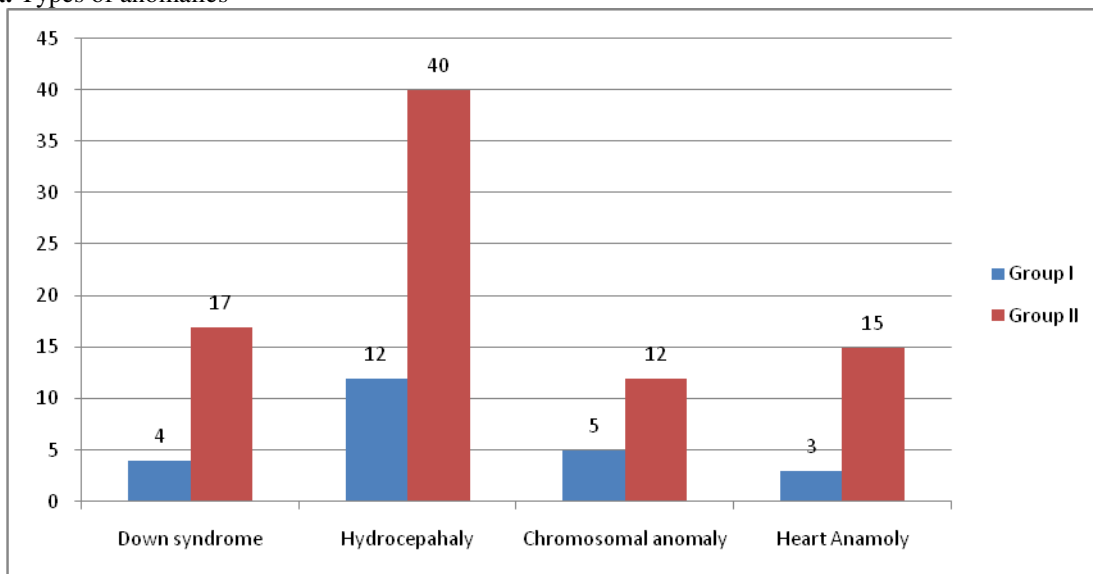
RESULTS

Table I Distribution of patients

Total- 650		
Group I	Group II	P value
45	165	0.02

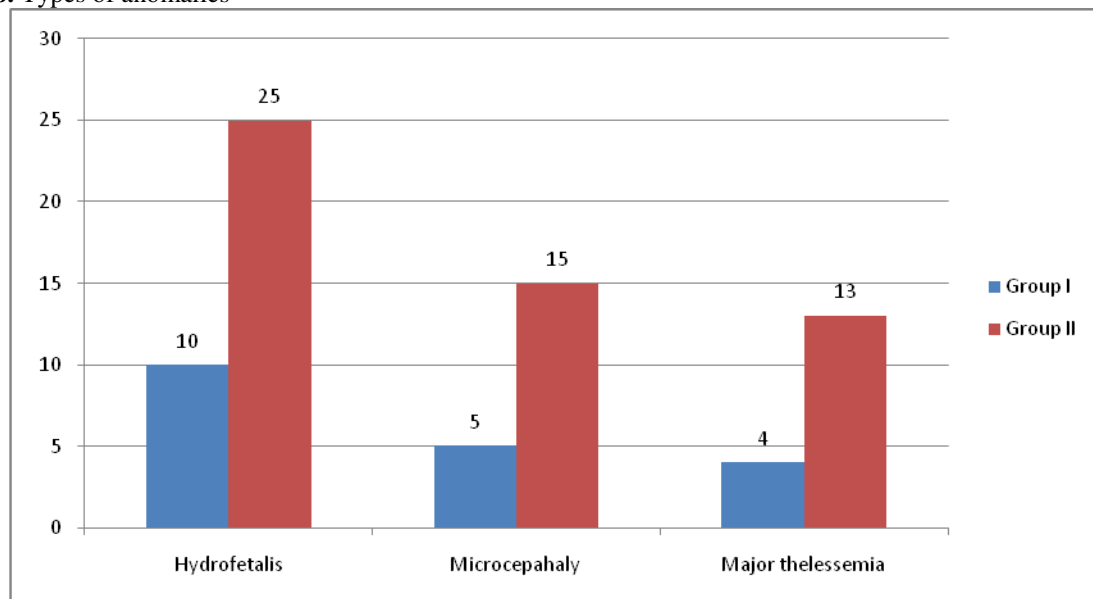
Table I shows that group I had 45 women and group II had 165 women. The difference was significant (P- 0.02).

Graph I a. Types of anomalies



Group I a. shows that anomalies were down syndrome (group I- 4, group II- 17), hydrocephaly (group I- 12, group II- 40), chromosomal anomaly (group I- 5, group II- 12) and heart anomaly (group I- 3, group II- 15). The difference was significant (P< 0.05).

Graph I b. Types of anomalies



Graph I b. shows that other anomalies were hydrofetalis (group I- 10, group II- 25), microcephaly (group I- 5, group II- 15) and major thalassaemia (group I- 4, group II- 13). The difference was significant (P< 0.05).

Table II Characteristics of patients

Parameters	Group I	Group II	P value
Education			
Primary	20	45	0.05
High	10	70	
Secondary	15	50	
Marriage			
Familial	25	110	0.01
Non- familial	20	55	

Table II shows that education was primary (group I- 20, group II- 45), high (group I- 10, group II- 70) and secondary (group I- 15, group II- 50). The difference was significant ($P < 0.05$). Marriage was familial (group I- 25, group II- 110) and non- familial (group I- 20, group II- 55). The difference was significant ($P < 0.01$).

DISCUSSION

The detection of anomalies occurs relatively late, especially in a developing country like India and more so in rural India. With the advent of prenatal diagnostic techniques, it is possible to make early detections and offer timely solutions. Anomaly rates can be reduced by using certain preventive strategies. These include folate supplementation (preconceptional and antenatal), avoidance of consanguineous marriage, control of diabetes and avoidance of aforementioned risk factors, such as radiation exposure and antimetabolites.⁴

In this study, group I had 45 women and group II had 165 women. We found that anomalies were down syndrome, hydrocephaly, chromosomal anomaly, heart anomaly, hydrofetalis, microcephaly and major thalassemia. This is similar to Dolk et al.⁵

The education was primary (group I- 20, group II- 45), high (group I- 10, group II- 70) and secondary (group I- 15, group II- 50). Marriage was familial (group I- 25, group II- 110) and non- familial (group I- 20, group II- 55). Similar results were seen in study by Agopian et al.⁶

As important as surveillance is the prevention of congenital anomalies. A recent study has reported the high prevalence of preconception risk factors for adverse pregnancy outcomes including birth defects among urban Indian women, especially those who were poorly educated and from low socioeconomic backgrounds. In such a scenario, preconception interventions take on a very important role in the prevention of birth defects. For example, assuming that upto 40% of NTDs can be prevented with preconception folic acid supplementation, the intervention would reduce about 30 000 affected births in India, considering complete compliance.⁷

The cost-benefit implications of folic acid supplementation in India however need to be carefully considered. Keeping in mind that a significant number of women from developing countries are likely to have low education levels, widespread health promotion messages emphasizing

preconception care to prevent birth defects should be a key step in any birth defects prevention programme. As however, the main focus of maternal health services in developing countries is on the provision of antenatal care, programmatic changes are required so that women can be reached prior to conception.⁸

The Birth Defects Registry of India functions on a nationwide scale to ascertain the baseline prevalence of birth defects in India. The ultimate objective of this is to plan strategies for preventive and supportive care, such as educating the public and creating awareness about birth defects as well as formation of support groups for those affected with these defects.⁹

CONCLUSION

Congenital anomalies are not uncommon conditions, as their birth prevalence rate is equivalent to global rates. Common anomalies are down syndrome, hydrocephaly, chromosomal anomaly, heart anomaly, hydrofetalis, microcephaly and major thalassemia.

REFERENCES

1. Penchaszadeh VB. Preventing congenital anomalies in developing countries. *Community Genet.* 2002; 5(1): 61–9.
2. Liu L, Johnson HL, Cousens S, Perin J, Scott S, Lawn JE, et al. Global, regional, and national causes of child mortality: an updated systematic analysis for 2010 with time trends since 2000. *Lancet.* 2012; 379 (9832): 2151–61.
3. Baruah J, Kurse G, Bora R. Pattern of gross congenital malformations in a tertiary referral hospital in northeast India. *Indian J Pediatr.* 2015; 2: 1-12.
4. Anand A, Sala DA. Clubfoot: etiology and treatment. *Indian J Orthop* 2008; 42:22–8.
5. Dolk H, Loane MA, Abramsky L, et al. Birth prevalence of congenital heart disease. *Epidemiol Camb Mass* 2010; 21:275–7.
6. Agopian AJ, Tinker SC, Lupo PJ, et al. National Birth Defects Prevention Study. Proportion of neural tube defects attributable to known risk factors. *Birth Defects Res A Clin Mol Teratol* 2013; 97:42–6.
7. Roye DP, Roye BD. Idiopathic congenital talipes equinovarus. *J Am Acad Orthop Surg* 2002; 10:239–48.
8. Bhide P, Sagoo GS, Moorthie S, et al. Systematic review of birth prevalence of neural tube defects in India. *Birth Defects Res A Clin Mol Teratol* 2013; 97:437–43.
9. Cherian A, Seena S, Bullock RK, et al. Incidence of neural tube defects in the least-developed area of India: a population-based study. *Lancet* 2005; 366:930–1.