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A Retrospective Study on Prevalence of Anomalous Babies in a Tertiary Care Hospital

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Abstract:

Babies come into the world heralding the good news that the human species with all its diversities and complexities is still going good and hasn't come to a grinding halt. Though a newborn brings in its wake untold happiness to those around, there are some unfortunate babies whose birth is clouded with sadness and worry for the parents because of the birth defects in them which manifest either immediately after birth or after a while, depending on the nature of the congenital abnormality

Results: Out of 28373 deliveries in 5 years, the overall prevalence of anomalous babies was found to be 1.21% (344). Majority were in the age group of 20 – 34 years. Incidence of anomalies was found to be more in multipara, than primipara. H/o consanguinity was seen in 22%, Booked-17%, Booked outside-78%, Unbooked-3.7%. Anomalies not detected in scan in 30% and were detected in 69%. Various Anomalies - CNS-33%, Cardiac-24%, Gastrointestinal-17%, Musculoskeletal-7%, Facial defects-7%, Abdominal wall defects-5.8%, Chromosomal-3.7%

Conclusion: Prevalence of anomalies was found to be lower in our hospital is 1.21% which is lower than the national average of 2-3%. The present study gave us an idea regarding incidence congenital anomalies and also its relation with associated maternal and fetal factors.

Keywords: Anomalous baby, Antenatal Scan

1. Introduction

Babies come into the world heralding the good news that the human species with all its diversities and complexities is still going good and hasn't come to a grinding halt. Though a newborn brings in its wake untold happiness to those around, there are some unfortunate babies whose birth is clouded with sadness and worry for the parents because of the birth defects in them which manifest either immediately after birth or after a while, depending on the nature of the congenital abnormality.

Congenital malformations or birth defects are common among all races, cultures, and socioeconomic strata. Birth defects can be isolated abnormalities or part of a syndrome and continue to be an important cause of neonatal and infant morbidity and mortality. Based on a World Health Organisation (WHO) report, about 3 million fetuses and infants are born each year with major congenital malformations; congenital malformations accounted for an estimated 495,000 deaths world- wide in 1997.

There are many causes for birth defects involving a wide range of factors -some due to hereditary abnormalities, chromosomal disorders, genetic disorders and some others caused by environmental agents

Commonly known birth defects are *cleft lip, cleft palate, Down's syndrome, muscular dystrophy, neural tube defects, congenital heart disorders to rare birth defects such as cleft foot and hand, club foot, aglossia and albinism.*

Congenital malformations that have cosmetic or functional significance are seen in nearly 3% of deliveries¹. The incidence of severe structural congenital malformations varied from 1.99 % to 9.12 % in different European registries².

The overall incidence of congenital malformations over a 5 year period in the Northern part of India was found to be 1.78%³ Worldwide incidence of congenital malformation is 3-7% but actual number varies widely between countries.3-5% in US⁴, 2.1% in Europe^{5,6}, Congenital anomalies account for 8% to 15% of prenatal deaths and 13% to 16% of neonatal deathism India.^{7,8} For more than two decades, congenital anomalies have been the leading cause of infant mortality in the United States⁹. The prevalence rate of anomalies is increasing due to exposure to teratogens of various kinds.

2. Aims and Objective

To determine the prevalence and association of anomalous babies with respect to various maternal parameters.

3. Materials and Methods

A retrospective study from January 2008 to December 2012.

Cases with anomalous babies were identified from the birth registry and the corresponding files were retrieved from the hospital medical records section.

The details were recorded in the designed proforma & influences of variables such as age, parity, consanguinity, whether detected antenatal or not and the types of anomalies were studied. Collected data was analyzed by proportions

4. Results

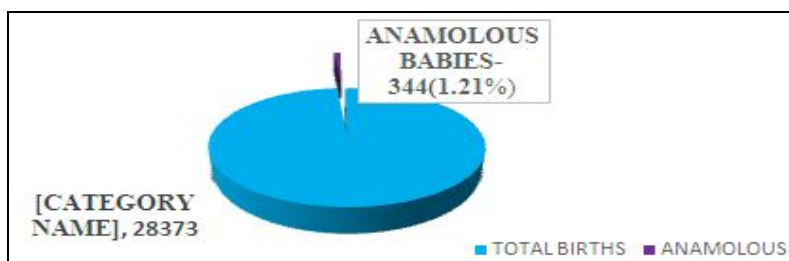


Figure 1

	Pregnancies with anomalies (N=344)	Pregnancies without Anomalies (N=28029)
<19yrs(n=596)	6(1%)	590(99%)
20-34yrs(n=26531)	312(1.17%)	26219(98.8%)
>35yrs(n=1246)	26(2.13%)	1220(97.8%)

Table 1: Distribution of cases with anomalies according to age

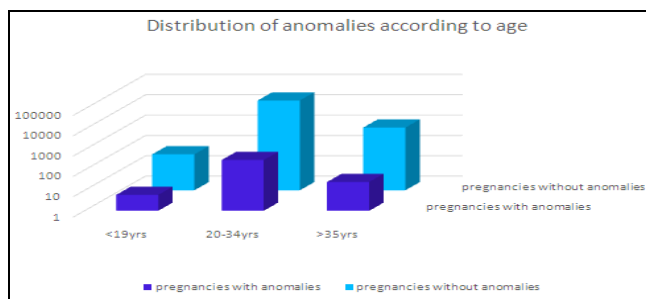


Figure 2

Parity	No. of Cases	Previous abortions	
		1	>/=2
0	181(452%)	15(4.3%)	10(2.9%)
1	120(34%)	10(2.9%)	3(0.8%)
2	20(5.8%)	3(0.8%)	3(0.8%)
3	13(3.7%)	-	-

>=4	10(2.9%)	-	-
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Table 2: Obstetric history of women with malformed fetuses/ neonates (N = 344)

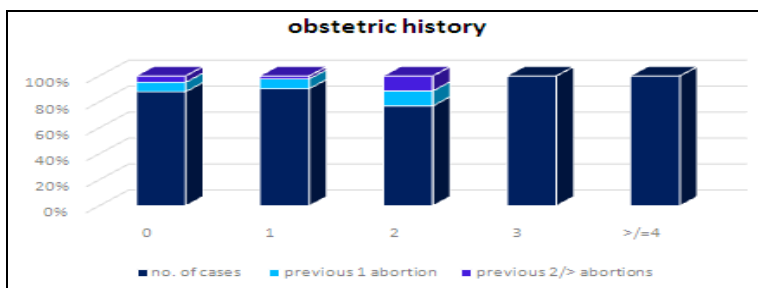


Figure 3

	No. of cases	Anomalous
Consanguinity	1702(5.9%)	78(22%)
Non consanguinity	26671(94%)	266(78%)

Table 3: Prevalence of anomalies with consanguinity

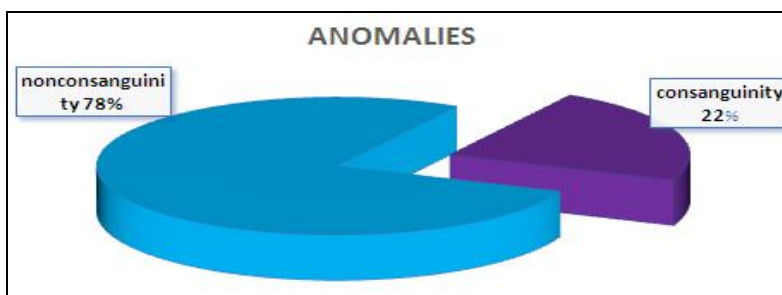


Figure 4

	No. of cases
Booked	60(17%)
Booked outside	271(78%)
Unbooked	13(3.7%)

Table 4: Prevalence of anomalies in booked/unbooked cases

	No. of cases
Anaemia	35(10%)
Overt diabetes	13(3.7%)
Hypertension complicating pregnancy	15(4.3%)
IUGR +oligohydramnios	55(15%)
Polyhydramnios	35(10%)
Placenta praevia	13(3.7%)
Twin gestation	15(4.3%)
Nil	163(47%)

Table 5: Antenatal complications associated with anomalies

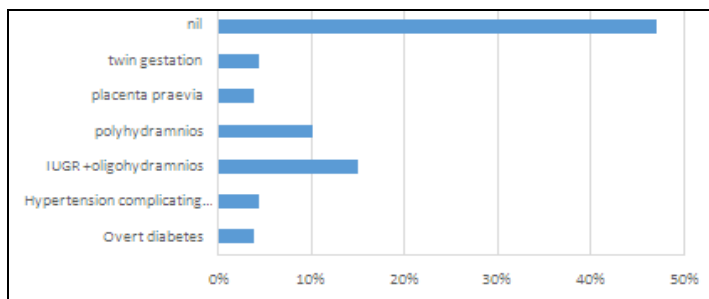


Figure 5

	No. of cases
Chromosomal anomaly	13(3.7%)
Cardiac anomaly	85(24%)
CNS	115(33%)
GIT and Genito urinary system	61(17%)
Abdominal wall defects	20(5.8%)
Musculoskeletal	25(7.2%)
Facial dysmorphism	25(7.2%)

Table 6: Types of anomalies

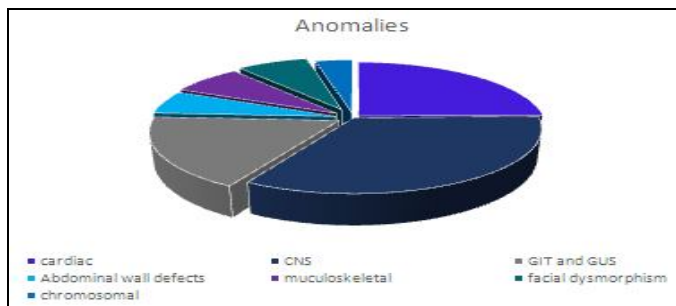


Figure 6

No scan	Anomalies		No. of cases	Anomalies
	13(3.7%)			
Booked here	65(18%)	Detected	50(76%)	Cardiac Facial
		Missed	10(15%)	
Booked outside	266(77%)	Detected	175(65%)	Cardiac Musculoskeletal Facial Gastrointestinal and Genitourinary
		Missed	40(15%)	
			25(9.3%)	
			14(5.2%)	
			12(4.%)	

Table 7: Relation between booked cases, Antenatal scan and missed anomalies

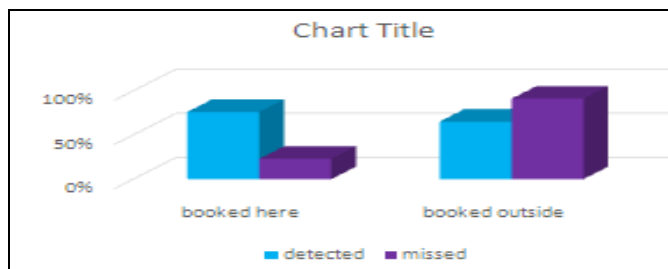


Figure 7

	No. of cases
FTVD	110(31%)
Caesarean delivery	24(6.9%)
Termination	145(42%)
PTVD	35(10%)
Stillborn	30(8.7%)

Table 8: Outcome of pregnancies with anomalies

5. Discussion

The incidence of congenital malformations in the study period of 5 years (JAN 2008 to DEC 2012) was 1.21% of 28373 deliveries. Prevalence of anomalies was found to be lower in our hospital than the national average of 2-3%. One of the commonly involved system in the index study was CNS. Asendi et al from India and Ekwere et al from Nigeria found alimentary system, nervous system and cardiovascular system as the most commonly affected parts in descending order of frequency in their series^{10,13}. It is much lower than 2 – 7% reported in most studies^{11,12}. One of the reasons for this could be that the study was carried out in a general maternity hospital catering mainly to low risk pregnancies and also the health awareness and the literacy rate is high in this part.

In the present study, the overall detection rate for anomalies was 60-78%, and the anomalies which were missed were cardiac, facial dysmorphism, musculoskeletal and gastrointestinal anomalies. Anomalies were more prevalent in women between 20-34 years. 15% had associated IUGR and oligohydramnios, 4.3% had twin gestation. Timely antenatal diagnosis of malformations before 20 weeks of pregnancy will provide an opportunity to confirm, consult, counsel and then to intervene (if required, with termination of pregnancy safely within the legal bounds). In the present study, 42% of the pregnancies with anomalous fetus were terminated <20 weeks and 8.7% were stillborn. Proper antenatal counselling does result in a higher rate of compliance and detection of anomalies at the right time.

6. Conclusion

Prevalence of anomalies was found to be lower in our hospital (1.21%) than the national average of 2-3%. The present study gave us an idea regarding incidence of congenital anomalies and also its relation with associated maternal and fetal factors. More stress should be laid on prevention by providing preconceptional folic acid, regular antenatal care and Antenatal diagnosis.

Genetic counselling and better diagnostic and management facilities should be provided to improve the outcome and survival.

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