CONGENITAL BIRTH DEFECTS IN REGIONAL MEDICAL COLLEGE HOSPITAL: MANIPUR

by

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Introduction

Congenital birth defects are important as a cause of still-births and neonatal deaths, and which also constitute almost the third most frequent cause of death in the neonatal period. One congenital abnormality has the tendency to be associated with another and the presence of an external easily recognisable birth defect may be of value in searching a less obvious internal abnormality. In view of the above, the study of the congenital birth defects is important. Such a study is attempted and carried out in the Regional Medical College Hospital, Manipur for the first time and more so the only one of its kind in the State so far.

In the general population, it is estimated that 7% of all live borns have some type of congenital abnormality or the other; the percentage of incidence is found in the order of 1 in 50 of live births and 1 in 12 carefully performed autopsies.

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In aborted foetuses, the incidence is even higher and it is higher for internal defects as compared to external defects. Children with congenital malformations who live beyond the neontal period are incapacitated by the deformities or by disases. Some of the malformations appear more commonly in the male species e.g. cleft palate, alimentary tract anomalies, ano-rectal anomalies, especially impesfosate anus, whereas anomalies of the hip, skeleton and brain show a higher incidence in the female babies. The incidence of congenital birth defects seems to have a definite relation to the maternal age, the highest incidence being over 35 years and lowest among mothers in the 25 to 30 years group with a slight increase in very young mothers. Also, congenital birth defects seem to have a prediliction for the first pregnancy and from the fifth onwards. In relation to maternal disease, diabetes mellitus doubles the normal incidence. Congenital birth defects may be related to paternal age (certain chondrodystrophies, e.g. achondroplasia). The order of birth may also have a role to play in the incidence of malformations (e.g. first borns: pyloric stenosis, anencephalus etc.,

subsequent pregnancies: Down syndrome, Cleft palate, hare-lip etc).

The important aetiological factors of congenital birth defects are, genetic influences, drugs (Thalidomide, clearly, but other drugs such as aspirin, barbiturate and dextro-amphetamine may have teratogenic effects in a small number of cases), maternal infection (such as rebella, toxoplasmosis, or syphilis), smoking, abnormal position or pressures in utero and excessive radiation.

Observations and Discussion

Out of 1783 total deliveries, there were 13 babies with congenital birth defects giving an incidence of 1 in 137. Out of the total congenital birth defects, major congenital defects were found in 8 cases (61.53%) where 7 cases were fresh still births and 1 case (Down syndrome) expired few days after birth. The remaining 5 cases (38.46%) were of minor congenital defects and were compatable to life (Table I). Out of total perinatal deaths of 123 in the year 1979, 8 were due to major congenital birth defects giving an incidence of 1 in 15.37 (6.50%).

Anencephaly is the commonest congenital birth defect in this study where out of the 13 cases, 4 cases were due to this birth defect, (30.76%). Out of this 4 cases, 3 were associated with hydramnios. Sexwise distribution shows male babies commoner than female babies (2:1) and 1 case was of undetermined sex as it was a case of mermaid.

Regarding maternal age, in this study, the youngest was of 19 years and the eldest was of 35 years, maximum being within the age group of 20 to 30 years (76.92%) and those above 31 years constitute 15.38%. Below 20 years constitute 7.69%. Parity-wise distribution of the mothers shows parity range from primipara to seventh para, maximum being in P3 to P5 group and minimum being, 1 case of primipara.

From whatever history obtained from the mothers regarding their dietary habits, drug addictions, smoking and drinking habits, 11 were vegeterian (with fish only), and 2 were of mixed dietary habits, smoking and drinking habits were obtained from 2 cases each, while none had given history of drug addiction. In this

TABLE I
Various Congenital Birth Defects

Name of congenital birth defects	No. of cases	Total No. of congenital birth defects	%	Compatable with life
Anencephaly	4	13	30.76	No
Mermaid	1	13	7.61	No
Foetal ascites (meconium Illeus)	1	13	7.61	No
Hydrocephalus	1	13	7.61	No
Cavernus hemangioma	1	13	7.61	Yes
Polydactylity (Lt. hand)	1	13	7.61	Yes
Exomphalus, minor	1	13	7.61	Yes
Phimosis	1	13	7.61	Yes
Cleft lip and Palate	1	13	7.61	Yes
Down Syndrome	1	13	7.61	Neonatal death

study, 11 cases belonged to local Manipuri Meiteis (Hindu) and 2 cases to Manipuri tribals (Christian). Only 4 cases had regular antenatal check up, another 4 cases had occasional antenatal check up, whereas the remaining 5 cases did not come at all for antenatal check up. During their antenatal check up, 2 cases of anencephaly were diagnosed clinically, out of the 4 cases of regular check up, and the remaining 2 cases of regular check up had minor congenital birth defects. None gave the history of trauma or radiation exposure, rash and high fever during pregnancy. Only 2 cases had caesarean section, 1 for cephalopelvic disproportion, the baby having only cavernous hemangioma of the abdomen and the other due to foetopelvic disproportion leading to obstructed labour. This case was later diagnosed as foetal ascites and cause of this was due to moconium ileus. This is the only case in our series where autopsy was performed.

Period of gestation varies from 32 weeks to full term. There were 7 cases less than 37 weeks; out of this, 2 cases were less than 34 weeks. Out of the 7 cases, 6 had stillbirths and only 1 case (Down syndrome) had neonatal death. Remaining 6 cases were of 38 to 40 weeks gestation. Except 1 anencephaly, other 5 cases belonged to the minor congenital birth defects with no mortality (Table I). There were 6 cases where birth weights were 2.5 kgs. and less. Exept 1 case (Down Syndrome) remaining 5 cases were less than 2 kgs. and all had stillbirths. Remaining 7 cases had birth weights of more than 2.6 kgs. This group had similar mortality to that of 38 weeks to 40 weeks gestation group.

Conclusion

Our study shows the commonest congenital birth defect as neural tube defects of which anencephaly tops the list. This is in agreement with other reported cases in the literature. But unlike the findings of Saxena *et al* (1977). Hydrocephalus is not so common in our series. Other birth defects e.g. cleft lip and palate, Down syndrome, examphalos are in agreement with the findings of Keay and Morgan (1978) and Saxena *et al* (1977). The male to female ratio also almost agrees with the findings of Keay and Morgan (1978). Of the infants with major abnormalities, 53.84% were still born or died in the first week of life and this is a little higher incidence than that of 42% reported by Keay and Morgan (1978). Majority of the major malformations were observed in neonates weighing less than 2 kgs. where there is cent per cent mortality and this is fully in agreement with that of Saxena *et al* (1977).

Maternal age over 35 years has got a higher incidence and lowest among mothers in the 25 to 30 years group. Viswanathan, (1973) is not in agreement with our findings which show maximum incidence between 20 and 30 years (76.92%) and those above 31 years being 15.38%. Of course, this may have some relation to the early marriage and subsequent child births. Prediliction of the defects to parity is common in our series. From P3 to P5 (38.46%), P6 and above (23.07%) and lowest being in primipara (15.38%). Major birth defects as well as Down syndrome belonged to premature group, less than 37 weeks of pregnancy and out of all term deliveries only 1 case (anencephaly) had major congenital defects incompatable to life.

In our series, about the aetiology of the congenital birth defects, we cannot pin point to any particular diet, social habits, drug, trauma and radiation to the mother during pregnancy. However, the history

of smoking and drinkind in 2 cases, 1 of anencephaly and another of mermaid and its correlation with these birth defects cannot be ascertained. The lacunae in the present study being lack of autopsy findings which would have certainly revealed the internal birth defects over and above the external ones which we have cited. Regular antenatal check up from early pregnancy may reduce the incidence of iatrogenic factors. The present study, though not so much elaborate in its investigation, autopsies and detailed history recording, highlight the future prospects of further study in this field from this eastern region.

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