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ORIGINAL PAPER

Study of incidence of externally visible congenital anomalies in stillbirth human foetuses of Manipuri origin

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ABSTRACT

***Introduction**: Birth defect, congenital malformation, and congenital anomaly are synonymous term use to describe structural, behavioral, functional, and metabolic disorders present at birth. Causes of congenital anomalies are often divided into genetic and environmental factor. For 50-60% of congenital anomalies the etiology is unknown. In the present study, we only look for visible gross anomalies thereby the exact definition of congenital anomaly may not be fulfilled.* ***Materials and method**: Study was conducted in the Department of Anatomy, Regional Institute of Medical Sciences, Imphal, for the period of 1 year, i.e., from 1st August 2011 to 1st August 2012. 120 numbers of stillbirth human foetuses were collected from the department of Obstetrics and Gynecology, RIMS, Imphal with a due permission from ethical committee. The specimens were preserved in 10% formalin. After 2 weeks specimens were observed carefully for any visible anomalies.* ***Results**: Out of 120 foetuses; 15 foetuses, i.e., 12.5% were found to have congenital anomalies. The commonest anomaly is craniofacial anomaly (6.666%) in the form of anencephaly and cleft lip and palate. Next to craniofacial anomaly is vertebral arch defect in the form of spina bifida (2.5%). Other anomalies are abdominal wall defect and limbs defects, each contributing 1.666% of the total anomalies in the present study.* ***Conclusion**: The incidence of congenital anomalies in the present study is 12.5%. The commonest anomaly encountered is in the form of craniofacial anomalies. This high of incidence congenital anomalies encountered in this study may be due to the fact that the study was conducted only in stillbirth human foetuses. Further research is recommended in order to pinpoint the causes of these of anomalies with the use of modern sophisticated tools.*

***Keywords**: Anomalies, stillbirth, craniofacial, fetuses*

INTRODUCTION

Birth defect, congenital malformation, and congenital anomaly are synonymous term use to describe structural, behavioral, functional, and metabolic disorders present at birth.[1] Causes of congenital anomalies is often divide into genetic and environmental factor. For 50-60% of congenital anomalies the etiology is unknown.[2] A major congenital anomaly is a structural or functional defect which is of prenatal in origin and present at the time of live birth or foetal demise or in utero; affecting the health, survival, physical or cognitive functioning of an individual.[3] In contrast minor anomalies are those with little or no impact on health or short term or long term function.[4]

In the present study, we only look for externally visible anomalies; thereby the exact definition of congenital anomaly may not be fulfilled.

MATERIALS AND METHOD

Study was conducted in the Department of anatomy, Regional Institute of Medical Sciences, Imphal for the period of 1year i.e. from 1st August 2011 to 1st August 2012. 120 numbers of still birth human foetuses were collected from the department of Obstetrics and Gynecology, RIMS, Imphal with a due permission from ethical committee. The specimens were preserved in 10% formalin. After 2 weeks specimens were observed carefully for any visible anomalies.

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RESULTS

Out of 120 foetuses; 15 foetuses i.e. 12.5% were found to have congenital anomalies. The commonest anomaly is craniofacial anomaly (6.666%) in the form of anencephaly (**Figure 1**) and cleft lip (**Figure 2**) and palate. Next to craniofacial anomaly is vertebral arch defect (**Figure 3**) in the form of spina bifida (2.5%). Other anomalies are abdominal wall defect (**Figure 4**) and limbs defects (**Figure 5**), each contributing 1.666% of the total anomalies in the present study.

Table 1 Incidence of cases

Cases	Nos.	%age
No visible anomaly	105	87.5
Craniofacial anomaly	8 (6 male & 2 female)	6.666
Vertebral arch defect	3 (2 male & 1 female)	2.5
Abdominal wall defect	2 (1 male & 1 female)	1.666
Limbs defect	2 (both are male)	1.666

Figure 1 & Figure 2 Craniofacial abnormalities in the form of anencephaly and cleft lip respectively

Figure 3 & 4 Vertebral arch defect and abdominal wall defect in the form of lumbar meningomyelocele and gastroschisis respectively

Figure 5 Showing malrotation of lower limbs

DISCUSSION

Different authors give different opinion regarding the incidence of congenital anomalies. Variations of incidence may vary from race to race and also influenced by environmental factors.

Gadow EC[5] and Al-Jama F[6] reported that the incidence of congenital anomaly is 3-5%. Many authors stated that the incidence of congenital anomalies of central nervous system was highest among all types of congenital anomalies; neural tube defects being the commonest one. Meningocele, meningomyelocele and anencephaly accounts for more numbers of anomalies in CNS and they were more common in stillborn,[7,8] whereas Mishra PC & Baveja R,[9] found higher incidence of multiple congenital anomalies. On the other hand Hatibaruah A, Hussain M[10] and Gosh et al[11] found higher incidence of musculo skeletal system malformation. Shah K, Pensi CA[12] and Hatibaruah A, Hussain M,[10] reported the higher incidence of congenital anomalies among male foetuses.

In the present study we found that the incidence of congenital anomalies is 12.5%. Craniofacial anomalies in the form of anencephaly and cleft lip and palate contribute the maximum among all types of congenital anomalies. Central nervous system anomalies in the form of craniofacial anomaly with vertebral arch defects are the commonest cause. This present finding is inconformity with the findings of Gupta S et al[7] and Guha DK, Bhatia S[8] but refutes statement given by the Mishra PC, Baveja R,[9] Ghose et al[11] and Hatibaruah A, Hussain M[10] as they reported high incidence of multiple congenital anomalies and musculo skeletal malformation respectively. The incidence (i.e., 12.5%) of congenital anomalies in the present study is very highas compared to the incidence reported by Gadow EC[5] and Al-Jama F.[6] The reason for this high incidence may be due to the fact that the present study was conducted only in still birth human foetuses. The present finding regarding higher incidence among male foetuses is comparable with the finding reported by Hatibaruah A, Hussain M,[10] and Shah K, Pensi CA.[12]

CONCLUSION

The incidence of congenital anomalies in the present study is 12.5%. The commonest anomaly encountered is in the form of craniofacial anomalies. This high of incidence congenital anomalies encountered in this study may be due to the fact that the study was conducted only in stillbirth human foetuses. Further research is recommended in order to pinpoint the causes of these of anomalies with the use of modern sophisticated tools.

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