Original article

Congenital anomalies in the rural areas of Kolar District of Karnataka

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Introduction: Congenital Anomalies are the birth defects which may be morphological, biochemical or behavior of all births that has been induced during any stages of pregnancy .

Materials and Methods: The objective of the present study is to know the various types of Anomalies the percentages of incidences of Anomalies and to compare and correlate the present study with available literatures.

R.L.Jallappa Teaching Hospital of Sri Devraj Urs Medical College, Tamaka, Kolar Karnataka from15.02.2007-15.07.2007-Five Months Study

Results: Sixty anomalies were observed in live births in the Departments of Surgery and fifteen anomalies in Radiology in the above hospital. The age group of malformations were new born to adult age group. They were seen found 73.00% in males and 27% in females. The overall percentages of incidences of Anomalies in the present study were 2.17%.This study was later compared and correlated with earlier workers and with the available literatures.

Conclusion: Ultrasound can diagnose most of the congenital anomalies

Key words: Surgical Anomalies Still births and Congenital Malformations.

Introduction

Congenital Anomalies are the birth defects which may be morphological, biochemical or behavior of all births that has been induced during any stages of pregnancy .They are commonly seen at birth or in the later part of life .Defects at birth are seen in the 2-4% Exact etiology is not known in 75-80% populations .But 25% of them are due to genetic defect .Three percent may be due to environmental factors. like maternal infections, Radiations, or Drug administrations, They are also caused by exposure to exogenous agents in the first trimester of pregnancy known as Teratogens.

Drugs commonly causing defects are Thalidomide (Limb Defects), Valoproic Acid (Neural tube Defects), Warfarin(Skeletal and C.N.S.Defects),Tetracycline (Teeth and bone defects),[1] Imiprimine (Limb Defects), Aminopterin (Anencephaly.Hydrocephalous,cleft lip, cleft palate.), Valium(cleft lip,and cleft palate) Diphenyl hydrantoin(Broad spectrum anomalies-Cranio facial defects,digital hypoplasia, Alcohol (Ventricular Septal Defects, Limb Defects)[2]

Materials and Methods

This study was done at the Teaching Hospital of Sri Devaraj Urs Medical College-Sri R.L.Jalappa Hospital, Tamaka, Kolar, and Karnataka. between February 2007 to July 2007.This hospital based study was conducted from new

born to adult aged group in the department of Surgery. The congenital malformations were observed in 60 cases of live births

In all cases, detailed history of personal, family, previous similar complaint, systemic diseases associated diseases any complications any genetic disorder were taken. This is followed by thorough clinical examination which includes general & physical examinations. In general examination build nutrition, presence and absence of cyanosis; jaundice, clubbing, and lympadenopathy.examination of eyes .skin were observed.

In physical examination, pulse rate heart rate, and all the peripheral pulses were noted down. Later, systemic examination of respiratory, cardiothoracic, gastrointestinal system and neurological examinations were conducted Detailed clinical examinations were conducted in patients with congenital anomalies.Relavent investigations were carried out patients with congenital malformations.

Investigations

1) Complete Haemogram was done in each patients

- Hemoglobin percentage(Hb%)
- Total count of Leucocytes (T.C)
- Differential count of Leucocytes(D.C)
- Erythrocyte Sedimentation Rate (ESR)

2) Radiological Investigations like plain and contrast X-ray.

a) Plain X-Ray of chest & abdomen were taken..

b) Contrast X -Ray of abdomen were taken to study individual viscera in the abdomen using various dyes to make internal organs radio opaque

3) Ultra sound of the abdomen-was also done

Ultra sound of the abdomen-was also done to study any anomalies of internal organs(viscera's of Gastrointestinal system,Hepato biliary system.

4) Ultra sound of the Pelvic cavity was also done.

Ultra sound of the Pelvis was also taken to study or rule out congenital malformations of pelvic organs like uterus and its adnexae, Urinary Bladder (Genito urinary System)

Results

Total numbers of cases with congenital anomalies were **sixty.**All were from. the Gastro intestinal systems. The age groups were from the new born to 18 years of age. The anomalies were observed more in males than in females. All the anomalies were found in live births.

Table:1 Case details

S/no	Anomalies	Age of the patient	Sex of the patient	Number of cases	percentages
1	Imperforate Anus	New Born	Male	15	25.00%
2	Recto Vesicle Fistula	New Born	Male	03	05.00%.
3	Tracheo esophageal Fistula	New Born	3 Males2Females	05	08.30%
4	Hypospodiasis	New Born	male	01	01.60%
5	Mega Colon	New Born	10 Males05 Females	15	25.00%
6	Meckel's Diverticulum	New Born	02 males	02	03.20%
7	Congenital Pyloric Stenosis	New Born	2 males01 females	03	04.80%
8	Cleft lip-Unilateral -Bilateral	5-18 years 14 years	06 males07females	13	21.66%
9	Cleft palate	2 years of age	01 male	01	01.60%
10	Patent Vitello Intestinal Duct	26 days old	male	.01	01.60%
11	Rannula	16 years old	Female	01	01.60%
	Total ——————	**——————**	**——————**	**60**	**99.06%**

Observations

From the above table it is observed that

1) **44(73.33%)** anomalies were found in **males**, 16(**26.66%**) in **females**

2) **44(73.33%)** anomalies were observed **in new born babies**.

3) 13((**21.66%**) anomalies were seen between the **age groups of 5-18 years.**

4) One (**1.66%**) female case was sixteen years old

5) No. still Births. anomalies.

From the Radiology Department,

Fifteen anomalies were observed by ultra sound studies during antenatal check up. The following were the rare anomalies (ONLY ONE ANOMALY) that were found during antenatal check up .

1) Osteogenic imperfect
2) Achondroplasia.

3) Imperforate Anus:-Absence of gas in the lower half of the gut
4) Micro colon.
5) Congenital pyloric stenosis.
6) Chiary Malformation.

The commonly found anomalies were

1) Anencephaly.
2) Hydrocephalus.
3) Meningocele.
4) Myelomeningocele.
5) Ventricular Septal Defect(VSD)
6) Atrial Septal Defect(ASD).

All the above anomalies were diagnosed only in the sthird trimester.

Discussion

Congenital anomalies are broadly grouped as Major and minor Those malformations likely to cause disability ,Disfigurement or threat to life were classified major Defect .Minor Defect is the one which is neither of medical nor cosmetic consequence to the patient

Reported Incidence of anomalies is as follows:-

1) Afghanistan (Kabul) ————55/1000 lives births.
2) Egypt- ————————————31.67/live births
3) Libya - ———————————— -9.3/1000 live births
4) Malaysia ———————————— -21.3/1000 live births.
5) New York- ————————————75/ 1000 live births

Reported Incidence of anomalies in India are as follows :-

1) Hyderabad— 33.00/1000 live births
2) New Delhi ———— 33.76/1000 live births.
3) Allahabad 14.65/1000 live births
4) Wardha ——— 12.4/1000 live births.
5) Mumbai- 2.9/100 live births.
6) Kolkota 3.1/1000 live births
7) Chandigarh 36/1000 live birth

Previous studies on Anomalies done at Nepalgunj Medical College, Nepalgunj, Nepal SHOWED incidence on anomalies was 1.4%. Congenital heart disease like situs inversus with Dextrocardia were more commonly found in Banke Districts of Nepal Neural tube defects like Anencephaly, Lipomyelomeningocele were more prevalent than in other parts of Nepal. Few of them were surgically corrected. Like previous study they were also more common in males[3]

Similarly second study showed higher incidences of 2.8% of congenital anomalies. They were found more in males observed higher in gastrointestinal system (22.85%) followed by musculoskeletal system and genito urinary system (14.25%) .Some rare anomalies like colloidin baby, absence of metacarpal bones, gaucher's disease, neglected cretin were found [4]

Table 2: Incidence of anomalies at various places

S/No	Author	Year	Region	Percentages
1	Ghosh and Bail.L	1963	Delhi	34.0
2	Stevenson AC et. Al. WHO.	1966	Mumbai	8.6
3	Stevenson AC et. al. WHO.	1966	Kolkota	3.1
4	Mathur B.C	1975	Hyderabad	31.00
5	Choudhary.et. al	1984	Kolkota	2.9
6	Mishra.P.C et .al	1989	Allah bad.	14.64
7	Govaralingappa	1994	Hubli	12.00
8	Datta et .al	2000	Sevagram.	12.4
9	Jai Renukarya et. al	2004	Bengaloroo	5.32
10	Present study	2007	Kolar	2.17%

From the above table, it is observed that .

1) Highest incidence of anomalies was found in studies of Ghosh and Bail.L in the year 1963 which was conducted at Delhi-34.00%.

2) The next higher incidence was 31.00, done by Mathur B.C in the year 1975 which was conducted at Hyderabad.

Present study done at **Kolar (2007) -2.17%** which is the **least incidence**.(may be due to small number of cases)

Table 3: Percentages of incidences in males and females

Sr No	Sex of the child	Total Numbers	Percentages
1	Male	32	52.46%
2	Female	28	45.90%
3	Ambiguous	01	01.64%

The present Study done at .R.LJalappa, Tamaka, Kolar in the current year 2007 showed the following percentages of incidences in males and females

Table 4: Ratio of male and female

S. No	Sex of the child	Total Numbers	Percentages
1	Male	.44	73.33% %
2	Female	16	26.66% %
3	Ambiguous	00	00.00%

Table 4 shows higher incidences in males (73.33%) than in females (26.66%). The incidence is (52.46%)

Herediofamilial and consanguious marriage have played vital role in the. development of anomalies. It has also been reported that incidences of anomalies are much higher in the still births than in live births as reported by Datta et

al.Their studies have reported an incidence of 1.24%.[5]

In the year 2002 there were three still births namely cranio thoraco phagus.anancephaly, syringomyelia, found. at Nepalgunj Medical College Teaching Hospital, Nepal Even some rare anomaly like Absence and fusion of ribs ,Lipomyelomeningocele were observed in live births.[6].

But in the present study (2007), no incidence of still births as well as like above incidences in live births was observed.

A male child aged nine months was diagnosed to have congenital diaphragmatic hernia of poster lateral type on radiological examination in the pediatric O.P.D. at Nepalgunj Medical College Teaching Hospital, Nepalgunj, Nepal. But in the present study no such above anomaly was found.[7]

Two important rare cases were found in the department of optholmology.They were

1) Golden Harr Syndrome

It is a developmental Anomaly of Second Branchial Arch seen in female aged 23 yearsold.It is a Auriculo-OcculoVertebral Anomaly characterized by following features.i)Coloboma in the upper and lower eye lid.ii)Pre auricular appendage,iii)Vetebral Anomalies-Scoliosis,Kyphosis,and Lardosis ,iv)Facial Asymmetry.

2) **Trachers Collins Syndrome** was seen in male aged 25 years characterized by

1) Lid Coloboma. 2) Maxillary Hypoplsia. 3) Mandibular Recession. 4) Pre Auricular Sinus or Fistula 5) Conductive Deafness.

Conclusion

Sixty anomalies were studied in the surgical department. All the anomalies were found in live births. They were predominantly seen in males(.73..0%) than in females(27.00%).But there were no cases of still births as seen in previous studies Incidence of anomalies in department of surgery was 2.17%.The age groups were between. new born to eighteen years of age. Forty four anomalies were observed in new born babies. Thirteen anomalies (21.66%) were between five to eighteen years of age. Fifteen anomalies were observed by ultrasound studies during ante natal check up in the department of Radiology, out of them seven cases were extremely rare cases, while others commonly found anomalies.

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References

1. Satoskar.R.S,Bhandarkar .S.D,Ainapure(2003)Text Book of Pharmacolgy & Pharmacotherapeutics-18th Edition-1084.
2. Datta A.K(2000)-Human Ebryology-4th Edition-Current Book Publications -102..
3. Bilodi.A.K.S,Thapa.VK,Jain .N,Jain.V-(2002)- Study of congenital Malformations in the Nepalgunj Medical College teaching Hospitals & in the orthopedic OPD of Bheri Zonal Hospital–Journal of Society of Surgeons of Nepal 5-53-54.
4. Bilodi A.K.S, Jain M,Mane.S,Kumar A.-(2004)Study of congenital Anomalies in the teaching Hospitals of Nepalgunj Medical College –Journal Institute of Medicine Volume 26,Issue-2 2004-25-26 .
5. Datta Vikram and Chaturvedi Pushpa (2000)-Congenital Malformations in the rural Maharastra, Journal of Indian Pediatrics –Vol37-September -17-998-1000.
6. Bilodi.A.K.S.,Thapa.V.K.Jain.N and Jain.V.(2002)-Study of Congenital Malformation at Nepalgunj Medical College Teaching Hospital, and in Orthopedic O.P.D.at Bheri Zonal Hospital, -Journal of the society of Surgeons of Nepal.-5-53-54.
7. Bilodi.A.K.S.,Sinha .N.,.Jain. Neeraj and Jain.Vibha.(2000) A Report on poster lateral type of congenital diaphragmatic hernia –Journal Institute of Medicine -22-93-95.