FREQUENCY OF MAJOR CONGENITAL ANOMALIES IN NEONATES ADMITTED TO INTENSIVE CARE UNIT AT ALEXANDRIA UNIVERSITY CHILDREN'S HOSPITAL

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Introduction

Congenital anomalies (CAs) are a worldwide health problem. They are important causes of childhood deaths, chronic illness, and disability. WHO defined CAs as structural, functional, or metabolic anomalies that originate during intrauterine life and can interfere with the body functions.

Prevalence globally, more than 5 million babies are estimated to be born with CAs each year. Ranked as the fourth leading cause of death worldwide for children under five years.

Risk factors of CAs include; advanced maternal age, prior pregnancy or family history of birth defect, consanguinity, nutritional deficiencies, Maternal diseases, self-medication with potential teratogens, alcohol drinking, drug intake, exposure to ionizing radiation during pregnancy, viral infection and congenital infection.

Diagnosis of a child who presents with multiple congenital anomalies is still a complex issue, also early recognition of some of these anomalies is important for planning care, However, treatment and rehabilitation of these morbid children is difficult, and complete recovery is usually impossible.

Aim of the work

This study aimed to estimate the frequency of major congenital anomalies among newborn infants admitted to neonatal intensive care unit during one year.

Patients and Methods

A prospective cross sectional study included all newborns with major congenital anomalies admitted to neonatal intensive care unit at Alexandria university children's hospital during one year from 1st of January 2020 to 31st of December 2021.

The study was based on data collected for the diagnosis, which was based on clinical evaluation of newborn babies by the neonatologist and others .

Appropriate investigations such as radiography, ultrasonography, echocardiography and chromosomal analysis. Any defective data in the medical records were completed by contacting parents, taking thorough history, and reviewing the medical reports and investigations. Newborns with minor congenital anomalies, inborn errors of metabolism, or referred outside the hospital just after delivery were excluded.

Results

Major Congenital malformations were detected in 200 patients indicating an incidence of 9.1% of admitted cases.

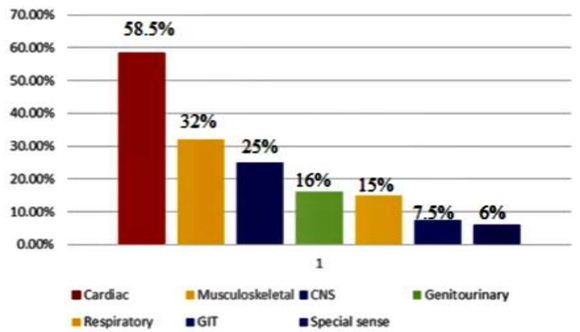

Figure 1: Classification of major congenital anomalies according to the affected body system

Karyotyping was done for 46 cases according to the clinical indications. Normal karyotype was found in 9 cases (19.5%). Numerical chromosomal abnormalities were reported in karyotyping results of 34 cases, 24 cases of them (52.2%) had trisomy 21 (Down syndrome). Structural chromosomal abnormalities were reported in karyotyping results of 3 cases.

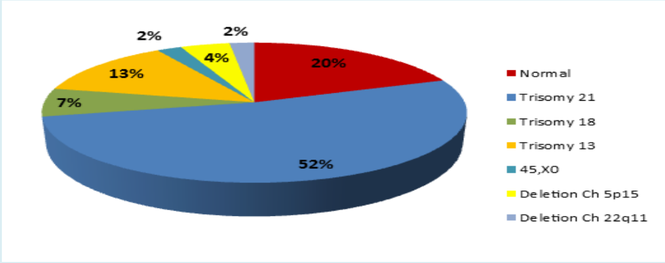

Figure 2: Distribution of the studied cases according to results of karyotyping

Conclusion

1. The frequency of congenital anomalies in patient admitted to AUMH was 9.1% relatively high incidence. Cardiovascular system anomalies were the most frequent type of anomalies (58.5%) then musculoskeletal anomalies (32%) followed by central nervous system anomalies (25%).
2. Congenital anomalies were higher among smokers, multiparity and rural residency.
3. Diagnosis of congenital anomalies should be based on a detailed history, physical examination and, investigations.
4. Surgical intervention was significantly associated with high survival proportion, while cardiac and respiratory anomalies were significantly associated with low survival proportion. Multivariate survival analysis showed that hazards of death were significantly more common in infants with isolated anomaly and infants who did not have surgical intervention than others.