Review Article

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Congenital Anomalies

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Abstract

Congenital anomalies are morphological or functional abnormalities that develop during pregnancy. Congenital malformations, often known as birth defects, congenital diseases, or congenital abnormalities, are prenatal conditions that can be detected sooner or later in life. An estimated 6% of infants worldwide are born with a congenital abnormality, resulting in tens of thousands of fatalities. However, the true number of cases could be far higher because records don't always include terminated pregnancies and stillbirths.

Cleft lip and palate, clubfoot, and hernias are just a few examples of congenital defects that can be treated surgically or non-surgically. Other conditions, including as coronary heart disease, neural tube abnormalities, and down syndrome, can have long-term consequences.

Congenital abnormalities are a major contributor to the global disease burden, with low and middle-income countries bearing a disproportionate share of the burden. These areas are also less likely to have centres for reversible conditions like clubfoot, resulting in more severe and long-term consequences.

Keywords: Congenital anomalies, Congenital malformations, Clubfoot, Hernias, Neural tube defects.

Introduction

Congenital anomalies are a wide range of abnormalities of the frame shape or appearance that are present from birth and are of parental origin. The focus is usually on major structural anomalies for performance and practicality.

Definition

A congenital disease is a medical condition that develops at an early age. These conditions, often known as birth defects, can occur during the foetal stage of development or as a result of the mother and father's genetic makeup. Congenital diseases aren't usually inherited, as they might be transmitted during pregnancy or cause harm to the foetus or start.

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Causes

Approximately half of all congenital abnormalities cannot be linked to a specific cause. Unpaired gene abnormalities, chromosomal problems, multifactorial inheritance, environmental teratogens, and micronutrient shortages are all known causes. Inherited genes or mutations may be to blame for genetic reasons. Consanguinity – when a mother and father are related by blood – increases the risk of congenital malformations and nearly doubles the risk of neonatal and early adolescent death, intellectual disability, and other health issues. Additionally, advanced maternal age raises the risk of chromosomal abnormalities, such as Down syndrome. Some illnesses, such as Zika virus, syphilis, and rubella, have been linked to an increase in the number of congenital abnormalities. Other abnormalities, such as cystic fibrosis and haemophilia C, are more common in this population.

Impact

Every year, an estimated 295 000 newborns worldwide die before reaching the age of four weeks due to congenital abnormalities and accompanying problems.

Congenital abnormalities can contribute to unhealthy behaviours, such as long-term disability and poor fitness. Over half of the disability-adjusted life years (DALYs) lost each year due to congenital abnormalities could be avoided with a quick surgical procedure or other treatment. Every year, for example, one hundred thousand babies are born with clubfoot, which can be easily repaired. However, if left untreated, this situation might result in severe and long-term impairment.

Many congenital defects are associated with social stigma and discrimination, which can lead to humiliation, isolation, and other reductions in network engagement. These conditions have a high monetary cost; long-term disability costs a lot of money.

Key Fact

- Each year, an estimated 240000 newborns worldwide die within the first 28 days of their lives due to birth abnormalities. Between the ages of one month and five years, birth abnormalities cause around 70,000 fatalities in children.
- Birth abnormalities can contribute to long-term disability, which has a significant impact on individuals, families, health-care systems, and societies.
- Nine out of ten children born with a severe birth disease are born in low and middle income countries.
- As the rates of neonatal and under-five mortality drop, birth abnormalities become a larger part of the cause of neonatal and under-five fatalities.
- Coronary heart abnormalities, neural tube defects, and Down syndrome are the most common causes of severe birth defects.

Risk Factor

Genetic

A small percentage of start problems are caused by genetic abnormalities, such as chromosomal abnormalities (such as Down syndrome or trisomy 21) or single gene disorders (as an example cystic fibrosis).

Consanguinity (when a mother and father are related by blood) also increases the likelihood of rare genetic start defects and nearly doubles the risk of newborn and adolescent death, intellectual incapacity, and other anomalies.

Aspects of socioeconomic and demographic change

Low earnings can be an implicit driver of start-up failures, occurring more frequently in resource-constrained people and countries. It is estimated that 94 percent of severe start-up faults occur in low and middle income countries. This improved chance is an oblique determinant that refers to a possible loss of get right of admission.

Infections Are An Example of Environmental Factors.

Others are caused by factors such as maternal infections (syphilis, rubella, Zika), radiation exposure, some pollutants, maternal dietary deficits (e.g., iodine deficiency), sickness (maternal diabetes), or certain medicines (alcohol).

Prevention

- ensuring that adolescent women and mothers eat a healthy diet that includes a variety of fruits and vegetables and maintain a healthy weight;

- ensuring adequate dietary intake of nutrients and minerals, particularly folic acid, in adolescent women and mothers;
- ensuring that mothers avoid harmful substances such as alcohol and smoke;
- avoiding travel by pregnant women (and occasionally women of child-bearing age) to areas suffering outbreaks of diseases linked to birth abnormalities;
- managing diabetes prior to and during pregnancy via counselling, weight reduction plan, and insulin management as needed;

Treatment and Care

Surgical or scientific methods may be used to treat some start problems. Access to this treatment may additionally fluctuate from the United States to various levels of exercise equipment, even though sophisticated care is becoming more widely available in low- and middle-income settings.

The inherent lethality (as in the case of congenital coronary heart problems) or morbidity (e.g., congenital talipes, cleft lip/palate) linked to structural start defects can frequently be mitigated by surgery with good follow-up care. This issue of the remedy is frequently undervalued in terms of its impact to lowering mortality and morbidity. Early discovery at lower levels of the gadget is progressed by screening, referral, and management (at an expert centre).

Conclusion

WHO organizes annual schooling programmes for the surveillance and prevention of birth malformations in collaboration with partners. WHO is also working with partners to provide the necessary technical knowledge for surveillance of neural tube defects, tracking fortification of staple foods with folic acid, and improving laboratory capacity for assessing risks for folic acid preventable start defects. WHO is also assisting low and middle income countries in improving the management and elimination of rubella and congenital rubella syndrome through immunization.

WHO creates normative tools, such as guidelines and a global action plan, to improve hospital treatment and rehabilitation services and to support the implementation of the United Nations Convention on the Rights of Persons with Disabilities.

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