Pattern of congenital anomalies after introduction of screening program in a tertiary care centre – A comparison

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Abstract

Background

A congenital anomaly is defined as an internal or external structural defect identifiable at birth. Major anomalies are those requiring surgical and cosmetic intervention whereas minor anomalies have no surgical or cosmetic importance. Newborn screening for congenital anomalies was introduced in our state as part of Shalabam program from 2014 to 2018.Visible birth defect screening was introduced in 2016 and pulse oximetry screening in 2018.Here we have done an analysis on the prevalence and pattern of congenital anomalies in a tertiary care centre and compared it with a similar study done before the introduction of screening program.

Objectives

To determine the prevalence and pattern of birth defects in a tertiary centre from November 2019 to November 2021.

To compare the results with published data from the same centre 5 years back before the introduction of screening programs.

Materials and methods

The study was a carried out in SAT hospital Trivandrum, which caters to the southern districts of Kerala and also Tamil Nadu. It was a retrospective study. The data was obtained from previous case records and screening registers from November 2019 to November 2021.The identified defects were classified to major systems and was compared to already published study from the same centre which analysed the pattern of birth defects from 2013 to 2015.Simple statistical methods were used to compare the two groups.

Results

Total babies screened were 15,869.Total number of anomalies identified were 1068.Prevalence of congenital anomalies was 6.7% which has definitely increased from previous data [1.9%].As per WHO, estimated 6% of the newborns are born with congenital anomalies. The most commonly involved system was musculoskeletal [234 cases,21.9%] with Congenital Talipes Equino Varus being the most common anomaly [126 cases,11.7%] similar to previous study [25.4% cases involving musculoskeletal skeletal system].Second most involved system was cardio vascular system [214 cases ,20.03%] with Atrial septal defect being the most common defect in this category [84 cases, 7.8%].This was in contrast to previous data where Central nervous system was the second most common system which is involved [96 cases,17.6%].Genito urinary system had a prevalence of 13.1% in the present study which was similar to previous findings [13.8%].Suspected syndromes had also similar prevalence5.9% [previous data 6%].Gastro intestinal system involvement had increased to 10.7% from previous data [6.6%].

Conclusion

The increase in the prevalence of anomalies noted in the present study may be due to early detection rate of even minor anomalies, improved diagnostic facilities and referrals. Most common system involvement identified was musculoskeletal system and the most common anomaly detected was CTEV similar to previous data. It was followed by cardiovascular system which is a new trend which may be due to the availability of bedside echo in the NICU, pulse oximetry screening and detection of asymptomatic anomalies which might have been missed earlier. The findings of this study reinforces the need for early management, follow up and prevention of CTEV which can cause significant morbidity in a growing child.

Limitations

Both out born and inborn babies were included in present study whereas only in borns were included in previous study which might have influenced the results.

Keywords

Congenital Anomalies, prevalence, comparison