



A RETROSPECTIVE ANALYSIS OF CONGENITAL DIAPHRAGMATIC HERNIA IN NEWBORNS AND CHILDREN: FOURTEEN-YEAR SINGLE CENTER RESULTS

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LEFT-SIDED DOMINANCE

98% of neonates presented with left-sided diaphragmatic hernia, confirming its overwhelming prevalence in early life.

RIGHT-SIDED HERNIA IN OLDER CHILDREN

Half of the older CDH patients (50%) had right-sided hernias, contrasting the neonatal pattern.

MORTALITY RISES WITH ANOMALIES

The presence of congenital heart disease (CHD) and additional anomalies significantly increased mortality in neonates.

HIGH NEONATAL MORTALITY

More than half of the neonates (56.9%) died, emphasizing the critical need for early intensive care.

ANTENATAL DIAGNOSIS ≠ SURVIVAL

Prenatal diagnosis was made in 30% of neonates, but mortality was similar regardless of diagnosis timing.

DIVERSE SYMPTOMS IN OLDER CDH PATIENTS

Older patients often presented with digestive and respiratory symptoms, unlike the respiratory-dominant neonatal group.

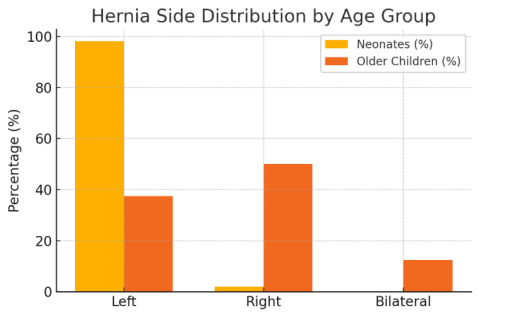
HERNIA SIDE DISTRIBUTION BY AGE GROUP

This section summarizes the distribution of CDH sides in neonates and older children.

Left-sided hernia is overwhelmingly more frequent in neonates (98%).

Right-sided hernia is most common in older children (50%).

Bilateral hernia is rare and seen only in older patients. (p < 0.001)

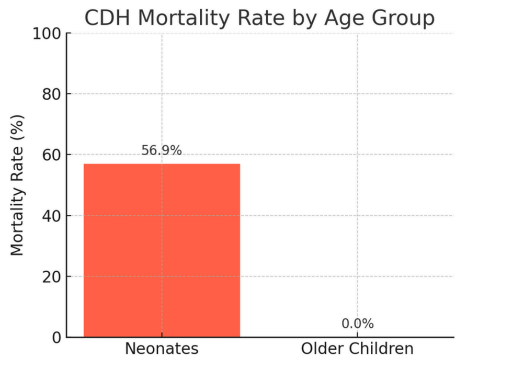


CDH MORTALITY BY AGE GROUP

This section highlights the mortality gap between neonates and older CDH patients.

Neonatal mortality: 56.9%

Older children mortality: 0% (p < 0.001)

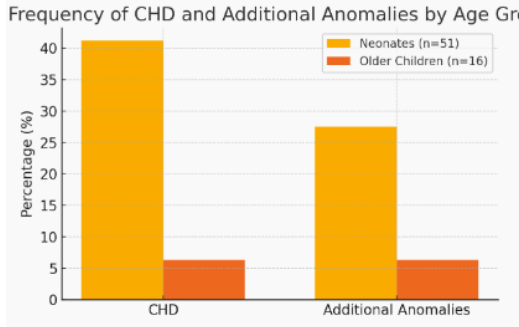


CONGENITAL HEART DISEASE & ADDITIONAL ANOMALIES

This section compares the frequency of CHD and other anomalies by age group.

CHD prevalence: 41.2% in neonates vs. 6.3% in older children (p = 0.022)

Additional anomalies: 27.5% in neonates vs. 6.3% in older children (p = 0.076)



Specifications	Data
Male	49/67 (73.13%)
Left side hernia	56/67 (83.5%)
Right side hernia	9/67 (13.43 %)
Bilateral hernia	2/67 (12,5 %)
Gestational age, weeks	37±2.50
Birth weight, grams	2679.53±648.40
Cesarean section	36/46 (78%)
Prenatal diagnosis	13/43 (30%)
Average day of neonatal surgery	3.02 ±2.36
Proportion of newborns operated on	38/51 (72.5%)
Patch repair, neonate , older age	2/51 (3.9%), 0/16 (0%)
Hernia sacs , neonate, older age	2/51 (2.55%), 4/16 (25%)
Stomach in thorax, neonate , older age	8/23 (34.8%), 10/28 (35.7%)
Avarage age of older children	2.5±0.4

Table 1. Demographic data with CDH's patients.

DISCUSSION AND CONCLUSION

A slightly increased incidence in male fetuses has been reported in the literature. 73% of our patients were male, and this result supports the literature. When our newborn and older age patients were evaluated together, 83.5 % had a left-side hernia, 13.4 % had a right-side hernia, and 2.3 % had a bilateral hernia, in agreement with the literature¹

Although the mortality rate of right-sided hernias is reported to be higher in the literature¹ the mortality rate of left-sided hernias was higher in our patients.

While the prenatal diagnosis rate was 30 % in our patients, this rate was 33 % in the literature. It has been reported that there is a higher mortality rate in prenatally diagnosed patients compared to those diagnosed postnatally.² In our series, the mortality rate was similar in our prenatally and postnatally diagnosed patients. Whether the antenatal diagnosis is made or not, the degree of lung hypoplasia may be similar in our patients. Thus, we can consider that additional abnormalities increase the mortality rate. We noted that the mortality rate was higher in CDH patients with additional congenital anomalies, similar to the study of Skari et al.²

In the last few years, despite the advancements in treatment and diagnosis, the overall mortality rate in CDH is still reaching 50%.¹ Our neonate’s mortality rate is 56.86%.

It has been shown that preoperative stabilization reduces sensitivity to vasospasm stimuli and increases pulmonary vessel diameter, and surgery after stabilization reduces mortality ³.In our series, newborns were stabilized in the intensive care unit for an average of 3 days and then underwent surgery.

The presence of the stomach in the thorax in our patients does not seem to be a bad prognostic factor.

In conclusion, we found that the rate of left-sided diaphragmatic hernia in newborns was relatively high and mortality of this patients increased when diaphragmatic hernia is accompanied with heart disease and additional anomalies. Older age patients had a broader spectrum of symptoms other than respiratory symptoms, and half of them had a right-sided hernia. Despite advanced diagnosis and treatments, CDH mortality is still high. CDH cases with prenatal diagnosis should be delivered in hospitals that have neonatal intensive care units and hospitals that perform neonatal pediatric surgery.

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