

Prognostic factors of death in children during the first year of life due to congenital diaphragmatic hernia: Analysis of a hospital cohort from 2005 to 2015

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Abstract

Introduction: Congenital diaphragmatic hernia (CDH) is associated with a failure in the fusion of the caudal pleuroperitoneal membranes that form the diaphragm, resulting in a defect of continuity, with potential thoracic migration of the abdominal structures under formation, resulting in compression of the lungs.¹⁻⁻⁻³ Therefore, the aim of this study was to describe and analyze the prognosis of children during the first year of life with a diagnosis of congenital diaphragmatic hernia admitted between the years 2005 and 2015 in the Neonatal Intensive Care Unit.

Method: In a retrospective cohort, 129 children with a diagnosis of congenital diaphragmatic hernia were studied. The prognostic factors were analyzed, whereupon prenatal, delivery, and postnatal exposure variables were associated with death during the first year of life. The odds ratio and the confidence interval (95% CI) were calculated for all the studied variables, using the chi-squared test and Student's t-test.

Results: The study included 129 children hospitalized from January of 2005 to December of 2015. Seventy-nine (61%) patients died, 50 survived, and 33 had other associated malformations. Among the prognostic factors, the following were significant and increased the chance of death: polyhydramnios ($p = 0.001$), gestational age of the earliest diagnosis ($p = 0.004$), associated congenital abnormalities (OR: 3.013, $p = 0.022$), pO₂ of the first gasometry ($p = 0.000$), pCO₂ of the first gasometry ($p = 0.000$), presence of pulmonary hypoplasia (OR: 3.074, $p = 0.000$), use of preoperative vasoactive drugs (OR: 2.881, $p = 0.000$), and use of nitric oxide (OR: 1.739, $p = 0.000$). The presence of only intestines in the hernia content was a protective factor (OR: 0.615, $p = 0.001$).

Conclusion: The mortality in the first year of life in patients with congenital diaphragmatic hernia in this study was 61% in the years 2005---2015. Among the prognostic factors that demonstrated a significant effect, pulmonary hypoplasia had the greatest impact.



Biography:

Roberta Ivanira Silva do Carmo has her expertise in review manuscript and providing valuable comments for international journals. Her passion in work in the Neonatal Intensive Care Unit (NICU) and pediatric Intensive Care allows to develop research aimed at contributing for improving health care through the her observation during the provision of assistance in intensive care. She work on the development of new research related to congenital diaphragmatic hernia in children and newborn. Her expertise is in developing research about retrospective cohort and data collection based on the review of medical records.

Speaker Publications:

1. "Prognostic factors of death in children during the first year of life due to congenital diaphragmatic hernia: analysis of a hospital cohort from 2005 to 2015"; J Pediatr (Rio J). / 2019 / doi: 10.1016/j.jped.2019.03.005
2. "The prognosis of newborns with congenital diaphragmatic hernia diagnosis admitted between 2005 to 2015 in the neonatal intensive care unit of a federal hospital in rio de janeiro"; Prevention and Health Promotion/ 2019 / Vol 151 pp 39-76

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