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Beyond neonatal intensive care: Challenges in the follow-up of bronchopulmonary dysplasia

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Bronchopulmonary dysplasia (BPD), also known as chronic lung disease of prematurity, is one of the main sequelae of prematurity, particularly in extremely preterm infants and those with low birth weight.[1] Its incidence ranges from 10% to 75% of preterm births, with an upward trend linked to advances in neonatal care that have led to increased survival rates in this population, but also to the limitations that still exist in the prevention and treatment of the disease.[2]

The pathogenesis of BPD is complex and multifactorial, attributed to the interaction between genetic susceptibility and various prenatal and postnatal factors. This clinical condition results from the interaction between inflammation and abnormal lung development (affecting the parenchyma, airways, and vasculature), as well as an imbalance between injury and repair in an extremely immature lung.[3]

The pathophysiological mechanisms involved in BPD affect the alveoli, airways, and/or pulmonary vessels in a relatively specific manner, leading to distinct clinical phenotypes that often overlap.[4]

The impact of the disease is not limited to the neonatal period but extends throughout life. Once infants with BPD are discharged from the neonatal unit, many are hospitalized for viral respiratory infections, and some experience impaired nutritional status and adverse neurocognitive outcomes.[5] From a respiratory standpoint, some infants require some form of respiratory support at home for at least the first year of life. A large proportion grow up with respiratory symptoms such as cough, wheezing, and exertional dyspnea, associated with persistent impairment of lung function that increases the risk of developing chronic obstructive pulmonary disease in adulthood.[6,7]

Six decades after it was first described,[8] there remains a lack of robust scientific evidence and significant heterogeneity in clinical practice, both within countries and within individual institutions. This variability directly impacts the quality of care provided to children.[9]

The management of children with DBP remains a clinical challenge. To better integrate the available evidence, standardize criteria, and optimize their care, the Sociedad Argentina de Pediatría has recently updated the follow-up guide for patients with BPD upon discharge from neonatal units,[10] a practical tool designed to improve the health of these children.

This group of patients requires close contact with the healthcare system and follow-up by trained professionals who can assess them,

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monitor their progress, and tailor appropriate treatment.[11] In this context, the coordination of interdisciplinary teams, long-term follow-up, and the customization of care strategies are fundamental pillars for optimizing clinical outcomes and facilitating a successful transition to adulthood. ■

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