

Revolutionizing Pediatric Pulmonary Hypertension: State-of-the-Art Diagnostic Techniques and Treatment Strategies

Annisa Lestari*

Department of Neonatal, Illinois Institute of Technology, USA

Abstract

Pediatric pulmonary hypertension (PH) is a condition marked by elevated pulmonary arterial pressure, which can significantly impact a child's quality of life and survival. Unlike adults, pediatric PH often has multifactorial origins, including prenatal, genetic, and developmental factors. This review provides a comprehensive update on the causes and classification of pediatric PH, current therapeutic strategies, and highlights areas for future research. The unique aspects of diagnosing and managing pediatric PH are discussed, emphasizing the diverse etiologies compared to adults. We also explore common causes such as developmental lung disease, genetic variations, and congenital heart disease, and review the treatment approaches guided by available evidence and expert opinions.

30-Mar-2024; DOI: 10.4172/2572-4983.1000402

Citation: Annisa L (2024) Revolutionizing Pediatric Pulmona

Genetic Factors

Genetic Factors

Genetic factors play a significant role in the pathogenesis of pediatric pulmonary hypertension. Mutations in genes such as BMP2, BMP4, and SMAD1 are associated with idiopathic pulmonary hypertension in children. Additionally, congenital heart disease, particularly transposition of the large vessels, is a common cause of secondary pulmonary hypertension. Genetic testing and counseling are essential for identifying the underlying cause and guiding treatment decisions.

Prenatal and Perinatal Factors

Prenatal and perinatal factors contribute to the development of pediatric pulmonary hypertension. Intrauterine growth restriction, low birth weight, and prolonged gestation are associated with an increased risk of PH. Perinatal asphyxia and meconium aspiration syndrome are also common causes of secondary PH. Early identification and management of these factors are crucial for improving outcomes.

The following table summarizes the key findings and recommendations from the review. The table is organized into columns representing different aspects of the research, such as diagnostic techniques, treatment strategies, and clinical outcomes. The data is presented in a clear and concise manner, allowing for easy comparison and analysis of the various studies included in the review.

- **Ea l De ci** ...

- **Di ea e M i i g** ...

Ge e ic Te i g

The following table summarizes the key findings and recommendations from the review. The table is organized into columns representing different aspects of the research, such as diagnostic techniques, treatment strategies, and clinical outcomes. The data is presented in a clear and concise manner, allowing for easy comparison and analysis of the various studies included in the review.

- **Diag e He i able PH** ...

- **P edic Di ea e C e** ...

I a i e Te a me S a egie

The following table summarizes the key findings and recommendations from the review. The table is organized into columns representing different aspects of the research, such as diagnostic techniques, treatment strategies, and clinical outcomes. The data is presented in a clear and concise manner, allowing for easy comparison and analysis of the various studies included in the review.

- **E d heli Rece A ag i (ERA)** ...